

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CALLAWAY GOLF COMPANY

Plaintiff,

y.

ACUSHNET COMPANY.

Defendant.

C.A. No. 06-91 (SLR)

JURY TRIAL DEMANDED

PUBLIC VERSION

**ACUSHNET COMPANY'S RESPONSE TO
CALLAWAY GOLF COMPANY'S OPENING MARKMAN BRIEF**

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I. INTRODUCTION

Callaway's opening *Markman* brief ignores basic claim construction principles. When a patentee goes out of its way to explicitly define a term, that definition is controlling. Here, the patents-in-suit expressly define "Shore D hardness" as a measurement taken in accordance with the ASTM D-2240 standard method. *Yet nowhere in its brief does Callaway even mention that its patents reference the ASTM D-2240 method.* Callaway cannot bury its head in the sand by pretending that the patents-in-suit do not define Shore D hardness with reference to this standard. Case law is clear that when a patent refers to an industry standard to define a claim term, that standard's definition controls. *Chimie v. PPG Indus.*, 402 F.3d 1371, 1378 (Fed. Cir. 2005). Callaway does not, and cannot, dispute that the ASTM D-2240 industry standard expressly forbids taking a Shore D hardness measurement on a curved or rounded surface, like that of a golf ball. Thus, Callaway's proposed definition must be rejected.

Callaway's reliance on what it asserts are patent specification examples of "on the ball" measurements is misplaced. These examples are, at best, ambiguous as to whether the measurements are taken on or off the ball. More importantly, these examples do not trump the explicit definition of "Shore D hardness" provided for by the patents' specifications. In addition, Callaway's proposed construction of "Shore D hardness" is directly at odds with the statements made during prosecution of the patents. Callaway's predecessor Spalding used "off the ball" measurements to obtain these patents. It cannot now have it both ways by arguing for a litigation-inspired "on the ball" construction in an attempt to save these invalid patents.

Even if there were any merit to Callaway's "Shore D hardness" arguments, at most Callaway has argued that the specification embraces "on the ball" in addition to "off the ball" measurements. Callaway has provided no reason at all to exclude "off the ball" measurements. A definition that excludes "off the ball" measurements, like Callaway's, cannot be squared with the specification and the prosecution history; such a definition must be rejected.


Finally, there is little merit to Callaway's arguments regarding construction of the term "core." Callaway's assertion that "core" should remain undefined is untenable. The parties dispute this term's meaning, and a construction is therefore appropriate. Moreover, Callaway's proposal provides no limits on what can be called a "core," since it would define a "core" as anything under a cover. Dual-core constructions (an inner core surrounded by an intermediate, mantle layer) were well known as of the effective filing date of the patents-in-suit, and they are not described in the specification at all. Callaway should not be allowed to expand the scope of its claims to cover what was not in the scope of the invention at the time of filing.


II. ARGUMENT

A. Callaway's Factual Assertions are the Product of Baseless Storytelling and Revisionist History

Callaway begins its brief with a series of self-serving, unsupported statements of fact, veiled as a purported background of golf ball technology. [D.I. 204, at 2-6]. In this story-telling section of its brief, Callaway makes a number of misleading factual assertions. In fact, there is good reason for the virtual absence of any evidentiary citations in Callaway's revisionist history tale; the actual history of golf ball development tells a much different story.

First, Callaway asserts without support that Acushnet "had nothing to do with the original development of the technology" of the Pro V1 balls. Yet, the record could not be clearer that Acushnet independently developed the Pro V1 golf ball starting in 1995, years before Callaway even entered the golf ball industry. D.I. 217, Ex. 17, Morgan Decl. ¶¶ 31-34; 38-43. In fact, Callaway can only make its baseless assertions by ignoring the hundreds of pages of contemporaneous documents produced by Acushnet, which substantiate its own development of the Pro V1





Second, Callaway states repeatedly that Acushnet was a “wound-ball company” and implies that Acushnet started making and selling solid core golf balls only in response to Callaway’s Rule 35 ball. [D.I. 204, at 3]. This too is fiction, and completely unsupportable. The actual historical and undisputable facts are that Acushnet has been making and selling solid core golf balls since 1980, when it released the enormously successful Pinnacle ball. D.I. 216, Ex. 17, Morgan Decl. ¶ 16. Acushnet subsequently sold many more extremely successful two-piece solid construction golf balls throughout the 1980s and 1990s, including the Pinnacle 384, Pinnacle Gold, Titleist HVC, Titleist HP2, and many others. *Id.* at ¶¶ 16-21. Acushnet had a very successful top quality line of solid core golf balls especially during the 1990s, and by 1996 it was manufacturing and selling more solid core construction golf balls than wound construction golf balls. D.I. 217, Ex. 9, Bellis Decl. ¶¶ 42-50 (charting Acushnet’s worldwide sales of solid construction versus wound construction golf balls from 1990 to the present). Thus, any implication that Acushnet was only a “wound-ball company,” or that it started selling solid core golf balls only after Callaway released a solid core golf ball, is simply untrue.

Third, Callaway seems to imply that the patents-in-suit solved the problem of finding a golf ball that was both long off the tee, while still having good “feel” characteristics around the greens. [D.I. 204, at 5-6]. To the contrary, the golf ball art is littered with issued patents pre-dating the patents-in-suit that purport to be the solution to that problem. Hundreds of patents

since the 1980s claim a golf ball long off the tee, but soft around the greens. In one review, over 55 Spalding patents, 20 Callaway patents, 60 Sumitomo patents, and 150 Bridgestone patents since the 1980s have claimed to have solved this problem. D.I. 217, Ex. 17, Morgan Decl. ¶ 60. More importantly, the prior art in this case explicitly states that it provides all of the advantages Callaway tries to attribute to the patents-in-suit. The Nesbitt patent, for example, explains that a soft outer cover and a hard inner cover provides both distance and feel:

In accordance with the present invention there is provided a golf ball having a multilayer or two-ply cover construction for a solid resilient center or core wherein the multilayer cover construction involves two stage molded cover compositions over a solid center or core of resilient polymeric material wherein an increased coefficient of restitution is attained and wherein the “feel” or playing characteristics are attained similar to those derived from a balata covered golf ball.

D.I. 217, Ex. 10, Nesbitt, col. 1:36-44. In addition, the Wu patent states that the use of polyurethane as a soft cover material over balata or Surlyn® ionomers provides increased durability and cut resistance: “Golf balls made in accordance with the present invention have been found to have improved shear resistance and cut resistance compared to golf balls having covers made from either balata or SURLYN®.” D.I. 217, Ex. 8, Wu, col. 2:28-32.

Thus, every advantage that Callaway tries to attribute to the patents-in-suit was explicitly identified as advantages of the prior art.

B. Callaway’s Proposed Construction of “Shore D hardness” Contradicts the Intrinsic Evidence

The fundamental problem with Callaway’s proposed construction of the “Shore D hardness” limitations is that *Callaway ignores and contradicts the specification’s explicit definition of the term “Shore D hardness.”*

In addition, the two arguments Callaway makes in support of its construction are flawed. Callaway’s first argument, that the claim language compels its proposed “on the ball” construction, ignores the language of other claim limitations that unambiguously refer to “off the ball” measurements of the properties of a “cover layer.” Callaway’s second argument, that the

specification allegedly includes some “on the ball” measurements, is also misplaced. The portions of the specification that Callaway cites are at best ambiguous as to whether they refer to “on the ball” or “off the ball” measurements. Even if they do refer to measurements “on the ball,” they cannot trump the definition of “Shore D hardness” that the patents-in-suit provide.

Finally, Callaway’s proposed construction is directly contrary to the way the “Shore D hardness” limitation was used during prosecution of the patents-in-suit. Spalding obtained these patents using a construction that embraced “off the ball” measurements. Callaway cannot now adopt an opposite construction to try to save the validity of the patents. It should be apparent from the concurrent summary judgment briefing on validity issues that the only reason Callaway now urges an “on the ball” construction is to try to fabricate a distinction between the patents-in-suit and the prior art, which typically does not report “on the ball” Shore D measurements.

1. Callaway ignores the specification’s explicit definition of the term “Shore D hardness”

Callaway does not mention once in its brief that the patents-in-suit explicitly refer to the ASTM D-2240 standard in defining the term “Shore D hardness.” This attempt to ignore the explicit definition provided in the specification should fail.

The patents-in-suit repeatedly refer to the ASTM D-2240 standard in defining “Shore D hardness.” For example, in two separate passages, the patents-in-suit state that Shore D hardness is measured “in accordance with ASTM method D-2240.” ‘293 patent, col. 7:20-22 (“The hardness may be defined as at least 50 on the Shore D scale as measured in accordance with ASTM method D-2240.”); ‘293 patent, col. 16:49-50 (“Shore hardness was measured in accordance with ASTM test 2240.”).

In addition, the patents-in-suit are replete with examples of Shore D hardness taken off the ball. They provide several tables with properties of cover materials, including Shore D hardness, that are indisputably “off the ball” measurements. *See, e.g.*, ‘293 patent, Tables 1 (properties of Surlyn® ionomers), 2 (properties of Iotek ionomers), 3 (properties of Iotek 7520 ionomer), 4 (properties of Iotek 7510 and 7520); col. 13:6-19 (properties of Estane® X-4517),

col. 20:61-21:15 (properties of Iotek 959 and 960). These tables cite the ASTM-2240 standard in their text.

For example, Table 3, reproduced below, explicitly refers to the ASTM D-2240 standard and states that the Shore D hardness is one of several “Plaque properties (2mm thick Compression Molded Plaques).”

TABLE 3

Physical Properties of Iotek 7520			
Property	ASTM Method	Units	Typical Value
Melt Index	D-1238	g/10 min.	2
Density	D-1505	kg/m ³	0.962
Cation			Zinc
Melting Point	D-3417	° C.	66
Crystallization Point	D-3417	° C.	49
Vicat Softening Point	D-1525	° C.	42
Plaque Properties (2 mm thick Compression Molded Plaques)			
Tensile at Break	D-638	MPa	10
Yield Point	D-638	MPa	None
Elongation at Break	D-638	%	760
1% Secant Modulus	D-638	MPa	22
Shore D Hardness	D-2240		32
Flexural Modulus	D-790	MPa	26
Zwick Rebond	ISO 4862	%	52
Dc Mattia Flex Resistance	D-430	Cycles	>5000

⁴293 patent, col. 11:38-59 (emphasis added).

[REDACTED] Thus, there can be no dispute that the patents-in-suit explicitly refer to the ASTM D-2240 standard to define Shore D hardness.

Where, as here, the specification contains an explicit definition of a term, that definition controls. *Semitool, Inc. v. Novellus Sys.*, 44 Fed. Appx. 949, 954 (Fed. Cir. 2002) (“When the

meaning of a term used in a claim is sufficiently clear from its definition in the patent specification, that meaning shall apply.”).

The Federal Circuit has applied this principle to cases where the specification refers to an industry standard for how a property is measured. In *Chimie v. PPG Indus.*, for example, the patent stated that dust formation and abrasion measurements were “measured in accordance with the standard DIN 583.” 402 F.3d at 1378-80. In addition, the examples and tables of the patent reported dust measurements “articulated in terms of the DIN 53 583 standard.” *Id.* Thus, the Federal Circuit construed the claim terms “dust-free” and “non-dusting” as those terms were defined by the DIN 53 583 standard. *Id.* at 1380-81.

The language of the patents-in-suit, referring to the ASTM D-2240 standard, is nearly identical to that in *Chimie*. For the reasons set forth in *Chimie* and similar Federal Circuit cases, the term “Shore D hardness” should be construed according to the ASTM D-2240 standard here. *See also LG Elecs., Inc. v. Bizcom Elecs., Inc.*, 453 F.3d 1364, 1375 (Fed. Cir. 2006) (construing a term as defined in an industry standard incorporated by reference into the specification); *Janssen Pharmaceutica, N.V. v. Eon Labs Mfg., Inc.*, 134 Fed. Appx. 425, 428-29, n.2 (Fed. Cir. 2005) (construing term “mesh” in light of the ASTM industry standard for sieve testing); *Lee’s Aquarium & Pet Prods. v. Python Prods.*, No. 97-1278, 1998 U.S. App. LEXIS 5954 (Fed. Cir. Mar. 24, 1998) (adopting ASTM definition of claim term “gravel”).

There is no dispute that the ASTM D-2240 method explicitly prohibits measuring Shore D hardness on a “rounded” or “uneven” surface like that of a golf ball. D.I. 211, Ex. I, ASTM D-2240, § 6.1 at 2. [REDACTED]

[REDACTED] Acushnet’s opening brief sets forth in detail why the standard prohibits measuring hardness “on the ball” as Callaway proposes. [D.I. 207, at 11-13].

Thus, the definition provided by the specification explicitly prohibits the type of measurement Callaway proposes. This should be the end of the inquiry, and Acushnet's proposed definition should be adopted.

2. Callaway's interpretation of the claim language is inconsistent with other claims of the patents-in-suit

Ignoring the definition provided by the specification, Callaway instead focuses on the fact that the claims refer to the "Shore D hardness" of a "cover layer" to support its improper construction. [D.I. 204, at 9-10]. Callaway's argument that this claim language compels an "on the ball" construction is flawed for at least two reasons.

First, the claims consistently refer to properties of the "cover layer" of the ball that can *only be taken off the ball*. For example, claim 6 of the '130 patent recites, in part: "said outer cover layer having a modulus in the range of about 1,000 to about 30,000 psi and a Shore D hardness of 64 or less." '130 patent, col. 24:1-3.¹ Thus, these claims require that the "outer cover layer" has two properties: a) a modulus in the range of 1,000 to 30,000; and b) a Shore D hardness of 64 or less.

The term "modulus" refers to the flexural modulus of a material, which can only be taken off the ball.²

Since flexural modulus is a measurement that can be taken only "off the ball," the claims that require an "outer cover layer" with a certain modulus must necessarily require an "off the ball" measurement of that property, rather than an "on the ball" measurement. And since the claims also recite that the "outer cover layer" has a Shore D hardness, it follows that the Shore D hardness should also be taken "off the ball."

¹ Claims 7 and 8 of the '293 patent recite that the "outer cover layer" has the same claimed modulus. '293 patent, col. 24:47-65.

² The reason for this is explained in greater detail in Acushnet's opening brief [D.I. 207, at 14-16], and need not be repeated in full here.

Second, the claim language itself favors a measurement of the material hardness of the cover layer alone, rather than a measurement that reflects the hardness of other layers of the golf ball. Callaway has repeated *ad nauseum* the fact that an “on the ball” measurement of the hardness of a cover layer measures not only the hardness of that cover layer, but also can be affected by the hardness of the materials that lie beneath the cover layer. *See, e.g.*, D.I. 204, at 10. Since the claims refer to the Shore D hardness of the “cover layer,” it stands to reason that the measurement that should be used is the one that most accurately measures the hardness of that cover layer itself, rather than the hardness of the materials beneath it. The ASTM D-2240 standard defines a minimum thickness of the test specimen to ensure that the hardness measurement reflects only the hardness of the material being measured, and not the hardness of the materials beneath. Thus, the ASTM D-2240 standard provides the most accurate measurement of the hardness of a “cover layer.” Accordingly, the claim language strongly favors Acushnet’s proposed construction rather than Callaway’s proposed construction.

3. None of the examples in the specification trump the specification’s explicit definition of “Shore D hardness”

Callaway spends a great deal of energy trying to piece together scattered passages and examples of the patents-in-suit in an attempt to find an example of an “on the ball” measurement of Shore D hardness. [D.I. 204, at 10-13]. Yet Callaway is unable to point to a single passage in the specification where it unambiguously states that a hardness measurement is taken on the curved surface of the golf ball cover layer rather than on a plaque of material.

Instead, the examples that Callaway pieces together are at most ambiguous as to how the hardness is measured. While Callaway is correct that there are some passages that refer to properties of “intermediate balls” and “finished balls,” there is nothing in those passages that suggests that the Shore D hardness of those balls are taken in any way other than that specified by the ASTM D-2240 standard. Indeed, the fact that the outer cover layer measurements do not seem to change regardless of the material that is under the outer cover layer suggests that the measurements are “off the ball” measurements. Compare, for example, Samples 15, 16, and 17

of Table 7, which Callaway contends reports the “on the ball” hardness of the outer cover layer. ‘293 patent, col. 19-20. The outer cover hardness for these samples is reported at 55 for each sample, despite the fact that the materials under the outer cover are vastly different.³ Given Callaway’s insistence that the “on the ball” cover hardness is affected so heavily by what is underneath the cover, this table seems to be reporting something other than “on the ball” hardness measurements [REDACTED]. The ambiguous references to hardness measurements that Callaway identifies cannot, in any event, trump the clear definition of “Shore D hardness” that is provided by the specification.

Callaway states that it is “difficult to imagine” how the patent could have been clearer that measurements were taken on the ball. [D.I. 204, at 13]. It is, in fact, not difficult to imagine at all. Mr. Sullivan has dozens of patents in the same family as the patents-in-suit where he states in unambiguous terms that measurements of Shore D hardness deviate from the ASTM D-2240 standard. For example, U.S. Patent No. 6,213,894 (“the ‘894 patent”), which is in the same family as the patents-in-suit, explicitly states that the “Shore D hardness” of the outer cover layer should be measured on the curved surface of the golf ball:

As used herein, *"Shore D hardness" of a cover is measured generally in accordance with ASTM D-2240, except the measurements are made on the curved surface of a molded cover, rather than on a plaque.* Furthermore, the Shore D hardness of the cover is measured while the cover remains over the core. When a hardness measurement is made on a dimpled cover, Shore D hardness is measured at a land area of the dimpled cover.

3 [REDACTED]

D.I. 211, Ex. M, ‘894 patent, col. 46:40-48 (emphasis added).⁴ This is in contrast to the patents-in-suit, which instead state that Shore D hardness is defined “as measured in accordance with ASTM method D-2240.” ‘293 patent, col. 7:20-21. Thus, if Spalding intended to deviate from the ASTM D-2240 standard, it knew how to do so, and in fact did so in related patents. Here however, where the patents-in-suit state that “hardness may be defined ... on the Shore D scale as measured in accordance with the ASTM method D-2240” (*id.*), that definition should control.

4. Callaway’s proposed construction directly contradicts the prosecution history of the patents-in-suit

Callaway’s proposed “on the ball” hardness construction is also at odds with how the term was used in obtaining the patents-in-suit during prosecution. As set forth in detail in Acushnet’s opening *Markman* brief, Spalding was forced to amend the specifications of the ‘156, ‘130, and ‘873 patents to add written description support for the limitation reciting an “outer cover layer having a Shore D hardness of 64 or less.” [D.I. 207, at 16-18]. In response, Spalding amended the specification to add this sentence: “Preferably, the *non-ionomeric thermoplastic elastomers* [used to produce the outer cover layer] have a Shore D hardness of 64 or less.” *See, e.g.*, ‘156 patent, col. 12:58-59 (emphasis added); *see also* ‘130 patent, col. 11:57-59; ‘873 patent, col. 12:63-64.⁵ This amendment unambiguously refers to the Shore D hardness of the materials of the outer cover layer, rather than an “on the ball” measurement of the cover layer.

Accordingly, any construction that excludes an “off the ball” measurement of Shore D hardness is impermissible since it is directly contrary to the prosecution history. Callaway’s proposed construction is an attempt to turn about face and use a definition now in litigation

⁴ Acushnet set forth many other examples in its opening *Markman* brief. [D.I. 207, at 18-20].

⁵ These amendments were made in the prosecutions of each of the ‘156, ‘130, and ‘873 patents. D.I. 208, Ex. F, Application Serial No. 09/873,642, Supplemental Response to Final Office Action, Sept. 26, 2002, at 5 (CW0308139); D.I. 209-210, Ex. G, Application Serial No. 09/776,278, Response to Final Office Action Mar. 19, 2003, at 6 (CW0309110); D.I. 211, Ex. H, Application Serial No. 09/832,154, Supplemental Amendment, Sept. 26, 2002, at 5 (CW0308842).

significantly different from the definition it used to obtain the patents. Callaway does so in an effort to make it more difficult to invalidate its patents. It is black-letter patent law that such tactics are impermissible. See *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956 (Fed. Cir. 2000); *CVI/Beta Ventures v. Tura LP*, 112 F.3d 1146, 1158 (Fed. Cir. 1997) (“through statements made during prosecution . . . an applicant for a patent . . . may commit to a particular meaning for a patent term, which meaning is then binding in litigation”).

Callaway must live with the interpretation that its predecessor to the patents used in obtaining them in the first place—i.e., an “off the ball” construction, with hardness defined on the Shore D scale “as measured in accordance ASTM method D-2240.”

**5. Callaway’s arguments do not provide any basis to
exclude “off the ball” Shore D hardness measurements**

Acushnet has demonstrated that its proposed construction is appropriate—that the Shore D hardness should be as measured “off the ball” in accordance with the ASTM D-2240 method. Callaway’s arguments, even if accepted, would mean at most that the specification also embraces “on the ball” measurements. Callaway has offered no evidence or argument for excluding “off the ball” measurements.

In reexamination, the Patent Office must apply the “broadest reasonable construction,” to a claim term. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). In the pending reexaminations, Acushnet argued that the “Shore D hardness” limitations should be construed to mean “off the ball” measurements, but that the “broadest reasonable construction” may embrace both types of measurements. Ex. GG, at 7-10. The Patent Office rejections, which relied on “off the ball” measurements, seem to indicate that it has applied the same construction. Callaway, even if all of its arguments are accepted, has offered no basis to exclude “off the ball” measurements. At most Callaway provides some (certainly weak) arguments as to why the hardness measurement might sometimes be done on the ball as well. Its proposal to exclude off the ball measurements expressly described in the specification and defined as the method of

making Shore D measurements is inconsistent with the specification and prosecution history, and must be rejected.

C. Callaway's Attempt to Broaden the Term "Core" Beyond that Supported by the Written Description Is Impermissible

Callaway contends that the term "core" needs no definition because its meaning would be clear to a lay juror, but then proceeds to try to define "core" contrary to its plain meaning, and beyond that which is supported by the written description of the patents-in-suit.

The term "core" should be construed to mean what it sounds like—the innermost component of the golf ball. Callaway's efforts to expand the scope of its claims beyond that which is supported by the specification should fail.

1. Acushnet's proposed construction of "core" is consistent with its plain meaning, whereas Callaway's proposed construction is not

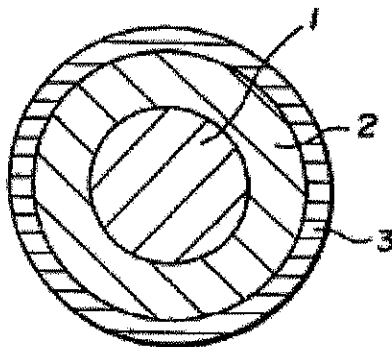
Callaway argues that the term "core" does not need construction at all. However, the fact that the parties dispute whether the term "core" should be read to include more than one solid piece in a solid-construction golf ball is reason enough for the Court to construe the term. Since the parties dispute the meaning of this claim term, the Court should construe the term and provide instruction to the jury that will allow it to determine the liability issues it will be presented with. *See, e.g., Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1366 (Fed. Cir. 2004).

Callaway's own statements illustrate that Acushnet's proposed definition of "core" is appropriate. Callaway argues that the term "core" should be given its plain and ordinary meaning because "any lay juror would understand it." Yet Callaway simultaneously argues for a definition of "core" that is contrary to how the term "core" would be understood by a lay juror.

The term "core" in the English language is defined, for example, as "the central or innermost part of anything." Ex. HH, Webster's New World Dictionary 309 (3d ed. 1991). This

is entirely consistent with Acushnet's proposed definition of "core" in these patents: namely the innermost component of the golf ball.

Callaway's proposed construction, on the other hand, would include any part of the golf ball that is under the cover layer. That Callaway's proposed construction is contrary to a plain meaning is illustrated by reference to a prior art patent that was cited during prosecution of the '130 patent. EPO 0 633 043 A1 ("the '043 patent") was cited in an Information Disclosure Statement during prosecution of the '130 patent, and describes a three-component golf ball, as depicted below:



D.I. 209-210, Ex. G, at CW0308521-29. The '043 patent describes the innermost component (1) as the "center core," the middle component (2) as the "intermediate layer," and the outermost component (3) as the "cover":

Referring to Fig. 1, there is schematically illustrated a typical three-piece solid golf ball embodying our new concepts. The ball includes a spherical center core 1 forming the center of the ball and a cover 3 forming the outermost layer of the ball. A relatively hard intermediate layer 2 is disposed between the core 1 and the cover 3.

'043 patent, 3:3-6 (D.I. 209-210, Ex. G, at CW0308523).

The plain meaning of "core" as defined by English dictionaries would refer to the innermost component of the golf ball described in the '043 patent, namely component 1 in the figure above. This is consistent with the fact that the '043 patent itself refers to component 1 as the "core" and component 2 as an "intermediate layer" "disposed between the core 1 and the cover 3." *Id.* Callaway's definition, on the other hand, would refer to anything under the cover

layer, namely components 1 and 2 collectively in the figure above, as the “core.” This definition runs contrary to how “core” would be understood by a lay juror. Thus, while Callaway pays lip service to plain meaning, its alternate construction illustrates its true intent to deviate from the plain meaning of the term “core.”

Callaway’s proposed construction is on its face an attempt to remove any defined scope from the word “core.” Under its proposed definition, it is entirely arbitrary where the core stops and the cover layers begin. The purpose of claim construction is to assist the jury in defining the scope of a claim, not to make the scope of the claim ambiguous. *See, e.g., Hewlett-Packard Co. v. EMC Corp.*, No. C 02-04709, 2004 U.S. Dist. LEXIS 28460, at *75 (N.D. Cal. June 23, 2004) (“The purpose of claim construction is to clarify the claim language, not to add ambiguous terms.”).


2. **Acushnet’s proposed construction is consistent with the claims and the specification**

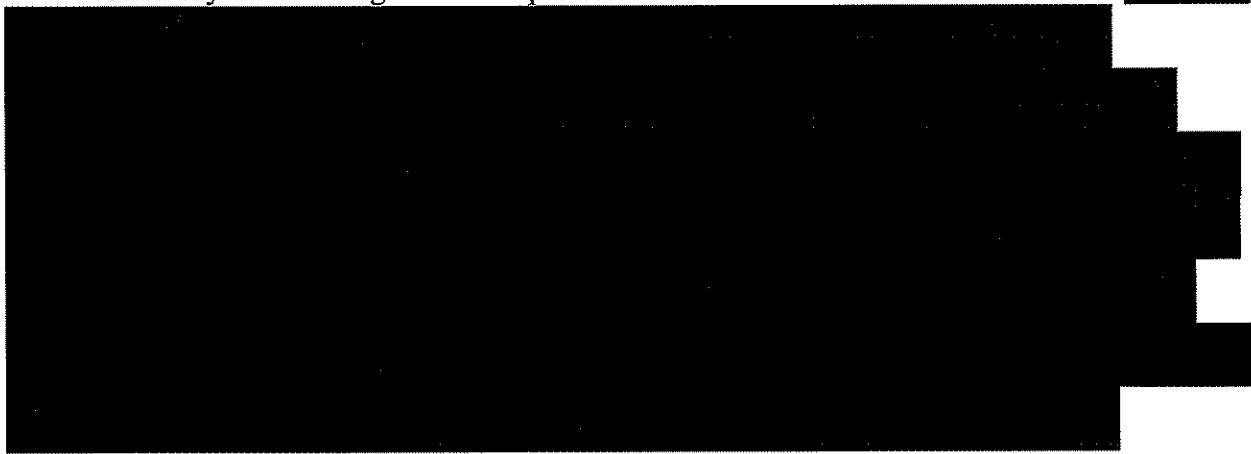
Callaway incorrectly argues that Acushnet’s proposed construction of “core” is inconsistent with the specification. Acushnet does not contest that the patents-in-suit describe the use of both solid one-piece core and wound-core golf balls. There is nothing in the patents-in-suit, however, that describe a “core” as consisting of more than one solid piece.

Each of the passages relied on by Callaway [D.I. 204, at 16-17] merely state that the invention can be used with “wound core” golf balls. In particular, such golf balls consist of a center (which is either liquid or solid), elastic windings, and a cover. ‘293 patent, col. 4:41-52. The patents-in-suit do not specify whether the term “core” should refer in that case to the combination of the liquid or solid center and the windings, or whether the term “core” refers only to the liquid or solid center. Thus, Acushnet’s definition of “core” as the singular component that occupies the center of the golf ball is entirely consistent with the use of a wound golf ball.

3. The written description supports only a single solid core or a wound core

Most importantly, there is nothing in the specification that describes solid cores that consist of more than one piece. In particular, the patents-in-suit describe a golf ball with three components: a core, an inner cover layer, and an outer cover layer. *See, e.g.*, '293 patent, col. 14:42-46. Every example of the patents uses a unitary single-piece solid core. In particular, the patents-in-suit describe the use of a "conventional solid core[]" as the core of the golf ball. '293 patent, col. 14:16-22. The specific composition of the conventional solid cores used in the examples is a rubber-based composition that is compression molded into a single solid component of homogeneous material. '293 patent, col. 14:14-22; 16:15-30. There is nothing in the specifications of the patents that suggests or discloses the use of solid dual-cores.

Callaway does not argue that the patents describe dual-core construction balls. 



As set forth in detail in Acushnet's opening *Markman* brief [D.I. 207, at 22-24], dual-core solid construction golf balls were well known in the art by the effective filing date of the patents-in-suit. Nonetheless, the patents-in-suit do not describe dual-core golf balls. Thus, a construction of "core" that encompasses solid two-piece cores would be invalid under 35 U.S.C. § 112 for lack of written description, and should be avoided where there is a reasonable alternative construction. *LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005) (holding invalid claims that recited a "seamless array of DWT coefficients" when the specification only disclosed one way to make such a seamless array of DWT

coefficients); *Modine Mfg. Co. v. United States Int'l Trade Comm'n*, 75 F.3d 1545, 1557 (Fed. Cir. 1996) (“When claims are amenable to more than one construction, they should when reasonably possible be interpreted so as to preserve their validity.”).⁶

4. Callaway’s proposed definition is inconsistent with prior art cited during prosecution

As set forth in detail in Acushnet’s opening *Markman* brief [D.I. 207, at 26-28], there are a number of references that were cited during prosecution of the ‘130 patent that disclose the use of multiple components under the cover layer of the golf ball. Those patents, however, do not refer to multiple solid components as the “core,” as Callaway’s definition would suggest. Callaway’s construction of “core” is inconsistent with the prior art cited during prosecution.

5. Callaway’s reliance on other patents actually supports Acushnet’s definition

Finally, Callaway relies on other patents that explicitly state that the “core” can include more than one layer. [D.I. 204, at 17-18]. This evidence, however, only strengthens Acushnet’s arguments. The patents that Callaway relies on show that when inventors want to include dual-core construction golf balls in the scope of their claims, they provide written description support for such dual-core constructions. Indeed, many patents in the same family as the patents-in-suit contain similar descriptions. For example, the ‘894 patent, discussed above, states that “the term ‘solid cores’ as used herein refers not only to one piece cores but also to those cores having a separate solid layer beneath the covers and over the central core.” D.I. 211, Ex. M, ‘894 patent col. 22:57-60.⁷ There is no such description in the patents-in-suit. Thus, when Spalding wanted to include multiple pieces in the definition of “core,” it did so explicitly.

⁶ Acushnet explores this argument in more detail in its opening *Markman* brief [D.I. 207, at 24-26], and does not repeat those arguments here.

⁷ See also D.I. 207, at 24, for additional examples of Spalding patents with similar language.

III. CONCLUSION

For the reasons set forth herein, and those set forth in Acushnet's Opening *Markman* Brief, the Court should construe the disputed claim terms as proposed by Acushnet.

Respectfully submitted,

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**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

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EXHIBIT FF

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**

EXHIBIT GG

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inter Partes Reexamination
Control No.: 95/000,120

Requested: January 17, 2006

For: U.S. Patent No. 6,210,293

Issued: April 3, 2001

Inventor: Michael J. Sullivan

Title: MULTI-LAYER GOLF BALL

Examiner: Michael W. O'Neill

Art Unit: 3993

Atty. Dkt. No.: 00634.0004.RXUS01

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**THIRD PARTY REQUESTER ACUSHNET COMPANY'S COMMENTS
AFTER PATENT OWNER RESPONSE FILED APRIL 27, 2007**

Third party requester Acushnet Company files these comments regarding the Office Action, mailed February 27, 2007, and Patent Owner Callaway Golf Company's Response, filed April 27, 2007. These comments are timely filed within the 30-day response period set by 37 C.F.R. § 1.947, as they are filed on the next succeeding business day that is not a Saturday, Sunday or a Federal holiday within the District of Columbia (Memorial Day), pursuant to 37 C.F.R. § 1.7.

No fee is believed to be due with the filing of these Comments. If any fee is required for any reason in connection with these Comments, the Commissioner is authorized to deduct said fees from Deposit Account No. 08-3038 referencing docket number 00634.0004.RXUS01.

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I. SUMMARY OF THIRD PARTY ACUSHNET'S COMMENTS

Acushnet agrees that the extensive and meticulous analysis in the 131-page Office Action mailed February 27, 2007, fully supports the rejection of claims 1-8 of U.S. Patent No. 6,210,293 as obvious under 35 U.S.C. § 103. Acushnet will show that Callaway's strained claim construction, incorrect legal analyses and contrived attempt to rewrite golf ball history fail to overcome the Examiner's findings of obviousness and, accordingly, the rejections of all claims of the '293 patent should be maintained.

First, Acushnet will show that Callaway's proposed claim construction requiring measurement of Shore D hardness "on the ball" is not supported by the facts and is narrower than the "broadest reasonable construction" required in a reexamination proceeding. When the correct, broadest reasonable construction of the claims is applied, Callaway cannot – and has not even tried to – explain how its claims could be patentable over the prior art. Nevertheless, even if Callaway's claim construction were adopted, Acushnet presents additional experimental evidence showing that prior art golf balls have a Shore D hardness within the claimed ranges of the '293 patent claims even when measured "on the ball."

Second, Callaway failed to explain how its disclosure of a polyurethane cover on a multi-layer solid golf ball was anything but obvious. The broad range of materials, dimensions and physical properties encompassed by the claims of the '293 patent fail to define anything over the prior art that was beyond a matter of routine design choice. The Board decision in *Ex Parte Sullivan*, the recent Supreme Court decision in *KSR v. Teleflex*, and the long-established use of polyurethane covers on golf balls all support the Examiner's finding that it was obvious to one of ordinary skill in the art to use polyurethane as an outer cover layer on a solid, double cover golf ball.

Third, Acushnet will show that Callaway's commercial success and unexpected result arguments are unsupported, misleading, and wrong. Callaway tries to create an illusion that the inventor named on the '293 patent, Michael J. Sullivan, was involved in the invention or

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development of Acushnet's Titleist Pro V1 golf ball. Nothing could be further from the truth. Mr. Sullivan also did not disclose the Titleist Pro V1 golf ball in the '293 patent or anywhere else. Therefore, it should not be surprising that there is no nexus between the commercial success of the Pro V1 and the '293 patent. The Pro V1's success is attributable to market forces, the Titleist name, and the ability of Acushnet to adapt its golf balls to the changing nature of the game of golf. Spalding, the '293 patent's original owner, never even sold a golf ball encompassed by the '293 patent claims until 2002 and floundered into bankruptcy soon thereafter. Callaway then bought this patent at a bankruptcy auction. Far from a remarkable success, the real world history of Spalding and this patent is one of failure.

Finally, Acushnet requests reconsideration of its proposed grounds of rejection that Nesbitt¹ incorporates Molitor '637² by reference and, thereby, anticipates claims 1-8 of the '293 patent under 35 U.S.C. § 102(b). In the February 27, 2007, Office Action, the Examiner overlooked the fact that Patent Office procedure in place at the time Nesbitt³ was filed and controlling caselaw authorize the format employed by Nesbitt to incorporate Molitor '637 by reference. Therefore, claims 1-8 of the '293 patent should also be rejected in the next Office action as anticipated under 35 U.S.C. § 102(b) over Nesbitt.

II. ACUSHNET'S PROPOSED GROUNDS FOR REJECTING THE '293 PATENT CLAIMS BASED ON NESBITT (WITH MOLITOR '637 INCORPORATED BY REFERENCE) SHOULD BE RECONSIDERED AND ADOPTED

A. At The Time Of Nesbitt's Filing, Patent Office Procedure Authorized The Format Used By Nesbitt To Incorporate Molitor '637 By Reference

Acushnet respectfully requests the Examiner to reconsider whether Nesbitt incorporates Molitor '637 by reference using the standards in place when the Nesbitt application was filed on

¹ Nesbitt, U.S. Patent No. 4,431,193, issued February 14, 1984.

² Molitor, U.S. Patent No. 4,274,637, issued June 23, 1981.

³ Nesbitt, U.S. Patent Application Serial No. 06/296,146, filed August 25, 1981.

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August 25, 1981. Under Patent Office practice then in place, Nesbitt properly incorporated Molitor '637 by reference.

In the February 27, 2007 Office Action, the Examiner declined to adopt requester's proposed Grounds #1, 8, 15, 22, 29, 36, 43 and 50 (to reject the '293 patent claims under 35 U.S.C. § 102(b) as anticipated by Nesbitt) based *solely* on a citation to the current version of the Manual of Patent Examining Procedure § 608.01(p), which is directed to incorporation by reference.^{4,5} The current MPEP, which is in its Eighth Edition, refers to the bright line test of 37 CFR 1.57(b)(1), which has a recent effective date of *October 21, 2004*.⁶ That is, today's MPEP states that "37 CFR 1.57(b)(1) limits a proper incorporation by reference (except as provided in 37 CFR 1.57(a)) to instances only where the perfecting words 'incorporated by reference' or the root of the words 'incorporate' (e.g., incorporating, incorporated) and 'reference' (e.g., referencing) appear."⁷

Twenty-six years ago, when the Nesbitt application was filed in August 1981, the MPEP was only in its Fourth Edition and a different practice was authorized for incorporation by reference. MPEP 608.01(p) stated then only that "The referencing application must include . . . *an identification of the referenced patent or application*, . . . Particular attention should be directed to specific portions of the referenced patent or application."⁸ No specific language or magic words were required to incorporate by reference. Therefore, when applying the PTO's earlier standard for incorporation by reference, the following passage from Nesbitt properly incorporates Molitor '637 by reference:

The inner, intermediate, or first layer or ply 14 and the outer cover, second layer or ply 16 or either of the layers may be cellular when formed of a foamed natural or synthetic polymeric material. Polymeric materials are preferably such as

⁴ See Office Action dated February 27, 2007, in Reexamination Control No. 95/000,120, at 13-14 (claim 1), 42 (claim 2), 47 (claim 3), 51 (claim 4), 83 (claim 5), 90 (claim 6), 94 (claim 7), 127 (claim 8).

⁵ MPEP 608.01(p)(Original Eighth Ed., August 2001, latest rev. August 2006). (Ex. A).

⁶ *Id.*; 69 FR 56539, Sept. 21, 2004.

⁷ MPEP 608.01(p)(Original Eighth Ed., August 2001, latest rev. August 2006). (Ex. A).

⁸ MPEP § 608.01(p) B (Fourth ed., Rev. 7, July 1981) (Ex. B) (emphasis added).

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ionomer resins which are foamable. Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 and 16 for the golf ball of this invention.⁹

Nesbitt identified both the referenced Molitor application serial number (Ser. No. 155,658) and patent number (U.S. Pat. No. 4,274,637), and directed attention to the specific subject matter (polymeric or foamable cover layer materials) that was incorporated into Nesbitt. The fact that the Patent Rules and the MPEP changed nearly a quarter century later does not nullify Nesbitt's incorporation by reference, which fully complied with the procedures in place as of its August 1981 filing date.

To say that an amendment to the Patent Rules in 2004 could retroactively change the incorporation by reference standard for earlier filed patent applications would be unfair to potentially millions of patent applicants who drafted their applications at a different time following the rules in play at that time. In many areas of the law where PTO practice has changed, patent applications must be judged against the law in effect at the time the application was made. *See, e.g., The Li Second Family LP, v. Toshiba Corp.*, 231 F.3d 1373, 1380 n.4 (Fed. Cir. 2000) (applying the PTO rule governing inequitable conduct in effect at the time a patent was prosecuted, and not the rule that was subsequently promulgated). Like inequitable conduct, incorporation by reference depends largely on intent – in this case the drafter's intent to incorporate material by reference. Just as the Federal Circuit looks to the PTO rules of inequitable conduct in effect at the time of the conduct to determine the requisite intent to deceive in such conduct, here, as well, the drafter's intent to incorporate Molitor '637 must be judged against the rule in effect when the specification was drafted. In short, when Nesbitt was filed, it effectively incorporated Molitor '637 by reference, as practitioners and persons of

⁹ Nesbitt, col. 3, ll. 51-61 (emphasis added).

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ordinary skill in the art would have recognized.¹⁰ The PTO should find that Nesbitt incorporates by reference Molitor '637, as Nesbitt so intended to do.

B. Caselaw Also Supports The Language of Nesbitt As an Effective Incorporation by Reference of Molitor '637

In *In re Voss*, 557 F.2d 812, 816 (CCPA 1977), the court reversed the Board of Patent Appeals and Interferences and found that the language "*Reference is made to United States Patent No. 2,920,971, granted to S. D. Stookey, for a general discussion of glass-ceramic materials and their production,*" was an effective incorporation by reference. *Voss* at 816-17 (emphasis added). The court found that "[i]t is clear that appellant intended the 'discussion of glass-ceramic materials and their production' in Stookey '971 to become part of his parent application." *Id.* at 817. See also *In re Hughes*, 550 F.2d 1273 (CCPA 1977). In *Hughes*, the court found that a subject Clampitt patent *did* properly incorporate a reference by stating "*Reference is made to application Ser. No. 131,108 for complete descriptions of methods of preparing aqueous polymeric dispersions applicable in the hereinafter described invention.*" *Hughes* at 1274-76 (emphasis added). The court went on to explain that "the 131,108 disclosure of these methods is part of the Clampitt disclosure and must be considered in determining what the reference as a whole would have fairly suggested to one of ordinary skill in the art." *Id.* at 1276.

The Federal Circuit has held that "[t]o incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents." *Advanced Display Sys. Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000). As recently as 2002, in *Southern Clay Products, Inc. v. United Catalysts, Inc.*, 64 U.S.P.Q.2d 1606 (Fed. Cir. 2002), the language

¹⁰ It is noteworthy that Nesbitt recently testified that his patent lawyer drafted the sentence in question. See Nesbitt Depo. Trans. at 178:25—179:22. Hence, it is even more likely that the sentence was intended to comply with the incorporation standards of the MPEP as they existed at the time.

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of *In re Voss* was recognized to meet this standard, quoted with approval, and relied on by the Federal Circuit.

The incorporation language examined in *In re Voss* and cited with approval by the Federal Circuit in *Southern Clay Products* is virtually identical to that used in *Nesbitt*. Compare *In re Voss*, 557 at 816 ("Reference is made to [U.S. Patent No. 2,920,971] . . . for a general discussion of glass-ceramic materials and their production") with *Nesbitt* col. 3, ll. 56-61 ("Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 and 16 for the golf ball of this invention."). Hence, not only in view of Patent Office practice in place at the time *Nesbitt* was filed, but also based on controlling caselaw, *Nesbitt* incorporates Molitor '637 by reference.

C. When Nesbitt is Correctly Viewed As Incorporating Molitor '637 By Reference, Nesbitt Anticipates Claims 1-8 Of The '293 Patent Under 35 U.S.C. § 102(b)

When *Nesbitt* is viewed as incorporating Molitor '637 by reference, claims 1-8 of the '293 patent should be found unpatentable under 35 U.S.C. § 102(b). Claim charts and a thorough explanation of how *Nesbitt* (with the incorporated portion of Molitor '637) discloses each and every element of claims 1-8 of the '293 patent are provided in Acushnet's Request for *Inter Partes* Reexamination of U.S. Patent No. 6,210,293, filed January 17, 2006, at pp. 14-17 (claim 1), 29-30 (claim 2), 31-32 (claim 3), 34-38 (claim 4), 50-51 (claim 5), 52-53 (claim 6), 55-59 (claim 7), and 71-72 (claim 8).

Anticipation by *Nesbitt* would also mean that the Examiner need not consider Callaway's arguments regarding secondary considerations.¹¹ Furthermore, Callaway's obscure arguments

¹¹ See *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1562 n.10 (Fed. Cir. 1983) (Davis, J. dissenting); *In re Fracalossi*, 681 F.2d 792, 796 (CCPA 1982) (Miller, J. concurring) (stating that "the so-called 'secondary considerations' relevant to a case of prima facie obviousness are not considered for purposes of determining anticipation.")

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that Nesbitt teaches away from the use of the polyurethanes in Molitor '637 are also irrelevant to an anticipation analysis.¹²

III. THE OVERALL FLAWS IN CALLAWAY'S APRIL 27, 2007 RESPONSE

A. Callaway's Narrow "On the Ball" Claim Construction Is Not Supported By The Facts And Ignores The "Broadest Reasonable Construction" Required For Reexamination

In its effort to undermine the Examiner's well-substantiated obviousness rejections, Callaway advances a narrow construction for the Shore D hardness ranges recited in the '293 patent claims. Callaway asserts that the claims require the Shore D hardness of a layer to be measured "on the ball."¹³ This unduly narrow construction is wrong and should not be adopted by the Examiner. Acushnet contends that the correct claim construction is that the Shore D hardness of a layer is to be measured "off the ball." Alternatively, if there is any ambiguity, the reasonable broadest interpretation is that the Shore D hardness of a layer can be measured either on the ball or off the ball.

A reexamination proceeding considers whether the claims, without deference to any prior actions, are patentable over newly considered issues of anticipation or obviousness in view of prior art. The claims are more vulnerable to challenge in reexamination because the claims are given their broadest interpretation.¹⁴ The Federal Circuit is of the view that, during reexamination, claims are to be given their broadest reasonable interpretation consistent with the specification, and claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art."¹⁵ Giving claims their broadest reasonable

¹² See *Celeritas Techs., Ltd. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998) ("A reference is no less anticipatory if, after disclosing the invention, the reference then disparages it. Thus, the question whether a reference 'teaches away' from the invention is inapplicable to an anticipation analysis.").

¹³ See Response to Office Action mailed February 27, 2007, in Reexamination Control No. 95/000,120, at 10-13.

¹⁴ See 37 C.F.R. § 1.555(b)(2)(ii)(reciting "giving each term in the claim its broadest reasonable construction consistent with the specification").

¹⁵ See *In re American Academy of Science Tech. Center*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (quoting *In re Bond*, 910 F.2d 831, 833 (Fed. Cir. 1990)).

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construction "serves the public interest by reducing the possibility that claims, finally allowed, will be given broader scope than is justified."¹⁶

The '293 patent does not compel "on the ball" hardness measurements, as Callaway wrongly asserts. To the contrary, the patent specification supports the "off the ball" measurement construction, although the broadest reasonable construction would arguably embrace either on or off the ball measurements of hardness.

The specification of the '293 patent clearly states (at col. 16, lines 49-50) that "Shore hardness was measured in accordance with ASTM test 2240."¹⁷ As Callaway admits in its Response, "ASTM D-2240 requires measuring the Shore D hardness of a material using a 0.25 inch thick plaque of material."¹⁸ This process of forming a plaque and measuring the properties of the plaque is plainly and indisputably a measurement made "off the ball." This clear statement of the testing method in the specification referencing ASTM D-2240 controls here and directs that measurements of hardness be made off the ball. Therefore, Shore D hardness as used in the '293 patent should be measured according to ASTM D-2240 or "off the ball."

Callaway argues that the parts of the ball below the layer in question influence the Shore D hardness of a golf ball cover when measurements are taken on the ball and that, therefore, "on the ball" measurements are required.¹⁹ As support for this argument, Callaway points to two of the examples disclosed in Table 7 of the '293 patent. Callaway alleges that the examples in Table 7 have Shore D hardness measurements that deviate from what one would expect if they were measured "off the ball."²⁰

However, the very examples Callaway relies on contradict its assertion. Although the examples identified in Table 7 vary in the construction of the inner cover layers and cores, outer

¹⁶ *In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984).

¹⁷ See ASTM Standard D-2240 (Ex. C).

¹⁸ Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120, at 10.

¹⁹ Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120, at 10.

²⁰ See Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120, at 10-11.

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cover layers of the same material *always* exhibit the same Shore D hardness measurement regardless of the underlying construction. See '293 patent, Table 7. Examples 15-17, for example, all have a "Z-Balata" outer cover. Example 15 has no inner cover layer (*i.e.*, it is a two-piece golf ball); Example 16 has an inner cover layer of 50/50 blend of ionomers, and Example 17 has an inner cover layer with yet a different blend of materials. Yet each of these examples exhibits the *same outer cover Shore D hardness* of 55. This shows that either Callaway is wrong about the outer cover hardness being measured on the ball or Callaway greatly exaggerates the effects of the underlying materials on the Shore D hardness of the outer cover. In either case, it absolutely does not establish that ball hardness must be measured solely "on the ball" as other Tables in the '293 patent clearly disclose "off the ball" measurements.²¹

Callaway further asserts that the claim language itself suggests that Shore D hardness should be measured on the ball. However, the hardness claim language used in the '293 patent is nearly identical in structure and wording to the limitation claiming "an outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi."²² As stated in the patent, modulus measurements are made according to a standard, ASTM D-790,²³ requiring the creation of a precisely-shaped bar which is then bent and measured according to certain parameters.²⁴ Obviously, this modulus measurement is made "off the ball." That nearly identical language used to claim Shore D hardness ("said outer cover layer having a Shore D hardness of 64 or less") in the same claim further supports the view that the hardness measurement was also meant to be taken according to an ASTM standard, ASTM D-2240, which is also made "off the ball."

Finally, a related patent shows that the original patent owner knew how to claim "on the ball" measurements when it intended to do so. U.S. Patent No. 6,213,894 ("the '894 patent") (Ex. D) claims priority to the same '510 application as the '293 Patent and is also directed

²¹ See, *e.g.*, '293 patent, Tables 1, 2, 3, and 4.

²² See '293 patent, claim 7.

²³ See '293 patent, col. 11, ll. 15-16.

²⁴ See ASTM Standard D-790 (Ex. D).

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generally to a multi-layer golf ball. Claim 1 of that patent reads in part: "a thermoplastic inner cover layer formed over the core, the inner cover layer having a Shore D hardness of at least 60 *as measured on the curved surface thereof*. . . ."²⁵ Similarly, the specification of the '894 patent states that, "The invention in a preferred form is a golf ball, comprising: a core, a thermoplastic inner cover layer formed over the core, the inner cover layer having a Shore D hardness of at least 60 *as measured on the surface thereof*, and an outer cover layer formed over the inner cover layer, the outer cover layer having a Shore D hardness of no more than 53 *as measured on the surface thereof*. . . ."²⁶

When this language is contrasted with that found in the claims and specification of the related '293 patent, it suggests to someone of ordinary skill in the art that the '293 patent's claims are not limited to hardness measured on the ball. When Callaway or Spalding wanted to claim an "on the ball" measurement, it knew how to draft those claims. It did not do so in the '293 patent.

As Callaway has failed to address the Examiner's rejections when the claims are given their correct and broadest reasonable construction, its arguments do not overcome the Examiner's obviousness rejections so they should be maintained.

B. The '293 Patent Claims Are Unpatentable Over The Prior Art Even When Shore D Hardness Measurements Are Taken "On The Ball"

Although the broadest reasonable construction of the claims permits the Shore D hardness be measured either "off the ball" or "on the ball," the claims of the '293 patent are unpatentable over the prior art even if Shore D hardness is measured only "on the ball." Measuring Shore D hardness on the ball does not affect the values of these measurements enough to make the '293 patent claims patentable over the prior art.

²⁵ '894 patent (Ex. E), claim 1.

²⁶ '894 patent (Ex. E), col. 3, ll. 45-48.

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The outstanding rejections are based in part on inherent properties of the prior art.²⁷ Thus, Callaway was obliged to show that the prior art balls did not have these properties. *See* MPEP § 2112 V. ("Once the Examiner presents evidence tending to show inherency, the burden shifts to the applicant to show an unobviousness difference."); *See also In re Thorpe*, 777 F.2d 695, 698 (Fed. Cir. 1995) (stating that once the PTO establishes a prima face case of unpatentability based on inherency, the burden shifts to the applicant to prove that the prior art does not possess the characteristics of the claimed invention). Callaway does not even try to meet this burden. Instead, Callaway argues only that none of the cited prior art references explicitly disclose Shore D hardness measurements *on the ball*. As Callaway has not met its burden, the Examiner's statements regarding inherent properties should be accepted as uncontested findings of fact and the prior art rejections maintained.

In the past, when prosecuting related applications, Spalding has overcome rejections based on inherent teachings of the prior art by making samples of golf balls according to the teachings of those prior art references. For example, during the prosecution of related U.S. Patent No. 5,803,831, Spalding made samples of the golf balls disclosed in U.S. Patent No. 5,558,950 to Endo in order to show that the balls of Endo did not inherently disclose a Shore D hardness of "50 or less."²⁸ Callaway has offered no such evidence here.

Indeed, to put this issue to rest and to show that the claims of the '293 patent are unpatentable regardless of how Shore D hardness is measured, an expert in the art has prepared samples of golf balls made according to the specifications of the prior art references relied upon by the Examiner to reject the claims of the '293 patent. When measured by an independent testing lab, the measurements of these materials made "on the ball" show that the claims of the '293 patent are unpatentable even when Shore D hardness is measured on the ball. This Table

²⁷ See Office Action dated February 27, 2007, e.g., at 12, and throughout statement of prior art rejections.

²⁸ See Decl. of Mark L. Binnette filed in U.S. App. Serial No. 08/631,613 (Ex. F).

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provides a summary of the prior art ball constructions and their Shore D hardness measurements made on the ball:

Ball #	Core	Inner Cover Layer	Outer Cover Layer	Shore D of Outer Cover Layer
BALL_1	Nesbitt 193	Nesbitt 193	Molitor 637	62.0
BALL_2	Nesbitt 193	Nesbitt 193	Wu 673	56.0
BALL_3	Nesbitt 193	Nesbitt 193	Molitor 751 ²⁹	50.1
BALL_4	Nesbitt 193	Molitor 637	Molitor 637	61.0
BALL_5	Nesbitt 193	Molitor 637	Wu 673	55.6
BALL_6	Nesbitt 193	Molitor 637	Molitor 751	49.6
BALL_7	Proudfit 187	Proudfit 187	Molitor 637	59.4
BALL_8	Proudfit 187	Proudfit 187	Wu 673	56.8
BALL_9	Proudfit 187	Proudfit 187	Molitor 751	51.2

This testing shows that the prior art relied on by the Examiner in rejecting the '293 patent claims had the required Shore D hardness even if measured "on the ball." Callaway's red herring argument thus can be rejected altogether.

C. Callaway Has Admitted Its '293 Patent Is Invalid

Significantly, in the past, even Callaway, the current owner of the '293 patent who now argues to the Examiner that the claims are patentable, has agreed that the '293 Patent is invalid

²⁹ The outer cover layer material that was tested used a slightly harder Surlyn (1605, now 8940), than the Surlyn described in Example 4 of Molitor 751, so the hardness measurements using the outer cover layer material of Example 4 would be even softer than those set forth for Molitor 751 in this table. See MacKnight Decl. (Ex. M) at ¶ 15.

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due to the inherent properties of Nesbitt. Callaway, in fact, has openly contended that the '293 patent is invalid. It is troubling that Callaway did not point this out to the Examiner. Acushnet is precluded by a protective order in a pending litigation from presenting the relevant documents to the PTO. Callaway, however, could have done so but instead chose not to display such candor in these reexamination proceedings.

Nevertheless, some of the information about Callaway's belief that the claims of the '293 patent are invalid can be gleaned from Mr. Nesbitt's deposition. During the deposition, Mr. Nesbitt was asked about a 2002 letter from Mike Rider, the Senior Vice President of Callaway to Spalding (then the owner of the '293 patent.)³⁰ In this letter, read aloud in part during the deposition, Callaway states:

Although Nesbitt was disclosed to the patent examiner during prosecution of the 293 patent, Spalding and its attorneys never informed the *examiner of the inherent features of Nesbitt, which reflect the invalidity of Claims 4, 5, 7 and 8, including the Shore D hardness of the layers of the golf ball disclosed in Nesbitt* and that Nesbitt teaches through reference the use of polyurethane covers.³¹

Thus, before this reexamination, Callaway stated that claims of the '293 patent were invalid due to the inherent properties of Nesbitt. The Examiner can judge for himself the credibility of Callaway's change in position. It is also telling that Callaway has not brought this letter to the Examiner's attention nor allowed Acushnet to do so.

D. It Was Obvious To One Of Ordinary Skill In The Art To Use Polyurethane As An Outer Cover Layer On A Solid, Double Cover Golf Ball

Much of Callaway's argument is premised on the assertion that one skilled in the art would not have combined a polyurethane cover (such as taught by Wu³² or Molitor) with a solid

³⁰ Nesbitt Depo. Trans. (Ex. E to Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120) at 250:2—250:22.

³¹ Nesbitt Depo. Trans. (Ex. E to Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120) at 250:15—250:22.

³² Wu, U.S. Patent No. 5,334,673, issued August 2, 1994.

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construction, double cover ball, such as Nesbitt or Proudfit³³. That argument has no merit in view of the Board decision in *Ex Parte Sullivan*, the Supreme Court decision in *KSR v. Teleflex*, and the fact that polyurethane covers have been used on golf balls for decades.

1. The Board Decision in *Ex Parte Sullivan* Found It Was Obvious To Modify Nesbitt's Golf Ball With The Polyurethane Cover Material Of Wu In a Related Patent Application With Similar Claims

The Board of Patent Appeals and Interferences recognized that it was obvious to combine a polyurethane cover material, as taught by Wu, with the solid, double construction cover of Nesbitt. *Ex Parte Sullivan*, 2004 WL 366302 *6 ("In applying the test for obviousness, we conclude that the teachings of Wu clearly would have made it obvious at the time the invention was made to a person of ordinary skill in the art to have modified Nesbitt's golf ball by using polyurethane as the outer cover material to achieve the expected benefits therefrom taught by Wu (i.e., to have the "click" and "feel" of balata; improved shear resistance and cut resistance; durability; and resiliency)."). Indeed, it did so in a closely related application, with nearly identical claims to this one. *Id.* at 1-2.

2. The Supreme Court *KSR v. Teleflex* Decision, Which Issued After Callaway's Response, Rejects the Rigid "Motivation to Substitute" Analysis Repeatedly Applied By Callaway

Shortly after Callaway filed its Response on April 27, 2007, the Supreme Court issued its unanimous decision in *KSR v. Teleflex*, 127 S. Ct. 1727 (2007), which held that the Federal Circuit's long-standing application of the "teaching, suggestion or motivation" test for obviousness is not a proper application of the obviousness rule set forth in case law under 35 U.S.C. § 103. The Supreme Court's decision announces a common-sense approach to obviousness that significantly changes the law related to obviousness. It is even more clear

³³ Proudfit, U.S. Patent No. 5,314,187, issued May 24, 1994.

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under *KSR* (not that clarity was really needed on these facts) that it was not patentable, at the time of the invention, to add a well known cover material (polyurethane) to a well known solid construction (like Nesbitt or Proudfit) to get a wholly predictable result.

For over twenty years, the Federal Circuit approach to obviousness "has employed an approach referred to ... as the 'teaching, suggestion, or motivation' test (TSM test), under which a patent claim is only proved obvious if 'some motivation or suggestion to combine the prior art teachings' can be found in the prior art, the nature of the problem, or the knowledge of a person having ordinary skill in the art." *KSR Int'l Co.*, slip op. at 2, citing *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1323-24 (Fed. Cir. 1999). See *In re Sernaker*, 702 F.2d 989, 994 (Fed. Cir. 1983).

In *KSR*, the Supreme Court rejected the Federal Circuit's approach:

We begin by rejecting the rigid approach of the Court of Appeals. Throughout this Court's engagement with the question of obviousness, our cases have set forth an expansive and flexible approach inconsistent with the way the Court of Appeals applied its TSM test here.

KSR Int'l Co., slip op. at 11. Not only did the Court so reject the Federal Circuit's strict approach and application of the TSM test, it also expressly directed lower courts to a more expansive and flexible approach in consideration of the obviousness standard:

The diversity of inventive pursuits and of modern technology counsels against limiting the analysis [to the TSM method]. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. ***Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress*** and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.

Rigid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it.

Id. at 15, 17 (emphasis added).

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As Justice Kennedy wrote for the unanimous Court, “[t]he obviousness analysis cannot be confined by a formalistic conception of the words *teaching*, *suggestion*, and *motivation*, or by overemphasis on the importance of published articles and the explicit content of issued patents.” *Id.* at 15 (emphasis added). “Common sense teaches ... that ... in many cases, a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Id.* at 16-17. “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *Id.* at 17. The Supreme Court thus rejected as “in error” the Federal Circuit’s teaching that “a patent claim cannot be proved obvious merely by showing that the combination of elements was ‘obvious to try.’” *Id.*

The *KSR* decision thus represents a dramatic shift in the law regarding obviousness, materially altering the previously-understood analysis for determining when an invention is obvious and thus cannot be patented. By rejecting the Federal Court’s rigid TSM approach, the Supreme Court has now instructed both lower courts and the PTO to allow for a far more realistic, common sense approach to proof of obviousness in patent cases.

Indeed, the PTO recognized the importance of *KSR*, and issued a memorandum regarding the case on May 3, 2007. Specifically, the Office stated that “[t]he Court rejected a rigid application of the ‘teaching, suggestion, or motivation’ test. . . .” As such, Callaway’s arguments attacking the motivations to combine the various prior art references are not persuasive and do not overcome the Examiner’s rejections, which met even the more stringent TSM test.

3. Polyurethane Covers Have Been Used On Golf Ball For Decades

Multi-layer golf balls comprising a core, an inner cover layer, and an outer cover layer were known in the art years before the filing of the ‘293 patent.³⁴ Similarly, blends of low-acid ionomers have been used in golf ball cover layers for decades.³⁵

³⁴ See, e.g., Nesbitt Figs. 1 and 2.

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Polyurethane covers have been used as golf ball cover layers for decades.³⁵ Contrary to Callaway's suggestion that only Surlyn and balata covered golf balls were available prior to the filing of the '293 patent application, polyurethane-covered balls were favored by tour professionals well before the '293 patent was filed or the Pro V1 entered the market.³⁷ The named inventor, Mr. Sullivan, has written that "polyurethanes have been used in golf ball covers for decades"³⁸ Therefore, it is not surprising or unexpected that a person of ordinary skill in the art would consider polyurethane as a cover material for a three piece ball.³⁹

Numerous patents and publications directed to the use of polyurethane golf ball covers have been available to persons of ordinary skill in the art for years. *See, e.g.* U.S. Patent No. 3,989,568—Polyurethane Covered Golf Balls (1976); U.S. Patent No. 4,442,282—Polyurethane Covered Golf Balls (1984); Molitor '637; and Molitor '751. These patents have taught skilled artisans that polyurethane is a suitable cover material for all types of golf ball constructions.⁴⁰

Additionally, along with Surlyn and balata, polyurethane has been one of the most widely-used golf ball cover materials in commercial products. As far back as 1976, it was known that polyurethane-covered balls "had cut resistance comparable to Surlyn covered balls and were found to have even greater abrasion resistance than the Surlyn covered balls."⁴¹ In addition, polyurethanes were known to have the "click and feel properties which were

³⁵ *See, e.g.*, Molitor '637 Table 7 (disclosing a cover blend containing Surlyn 1605 (now 8940) and Surlyn 1557 (9650)); U.S. Patent No. 3,819,768—Golf Ball Cover Compositions Comprising a Mixture of Ionomer Resins, issued June 25, 1974 (Ex. G) (disclosing blend of Surlyn 1555 (8660) and 1557 (9650)).

³⁶ *See, e.g.* U.S. Patent No. 3,989,568—Polyurethane Covered Golf Balls, Issued on November 2, 1976 (Ex. H).

³⁷ Declaration of Davis Love III (Ex. I) at ¶¶ 9-10.

³⁸ M. Sullivan, "History and Construction of Non-Wound Golf Balls" Science and Golf III: Proceedings of the 1998 World Scientific Congress of Golf at 409 (1999) (Ex. D to Request for Reexamination filed January 17, 2006).

³⁹ In fact, as discussed in relation to the rejections based upon Nesbitt and Molitor '637 below, Dennis Nesbitt considered the use of polyurethane on a three-piece ball nearly two decades before the '293 patent was filed. His efforts show that persons of ordinary skill in the art would consider polyurethane as a cover material as a matter of course.

⁴⁰ *See, e.g.*, U.S. Patent No. 3,989,568 (Ex. G) col. 3, ll. 55-57 ("The core used with [a polyurethane cover] may be any core which is suitable for use in a golf ball."); U.S. Patent No. 4,442,282 (Ex. J) col. 4, ll. 34-42 (stating that polyurethane covers may be used with wound or solid core golf balls).

⁴¹ U.S. Patent No. 3,989,568 (Ex. H) col. 5, ll. 15-18.

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comparable to those of the balata covered ball."⁴² The Spalding Executive golf ball, for example, utilized a cover containing polyurethane and was sold over twenty years before Sullivan filed the '293 patent application.⁴³

Acushnet launched its first urethane-covered ball, the Tour Prestige, in Japan in 1993.⁴⁴ This ball was rebranded as the *Titleist Professional* and launched in the U.S. later that year.⁴⁵ This ball would soon become the #1 ball on the PGA Tour during the 1990s.⁴⁶ In fact, this ball was played by about 70% of tour golfers each year from 1994 to 1999.⁴⁷ Additionally, polyurethane was being used as a cover layer on solid golf balls at around the same time. For example, by 1995 Titleist had several solid polyurethane covered golf balls listed on the USGA conforming ball list. These included the Professional 2p, The Pro Δ 2p, The Pro Δ 2-piece, and the Pro 2p.⁴⁸ Furthermore, Acushnet's U.S. Patent No. 5,733,428 to Calabria and Wu discloses the method of casting polyurethane covers and demonstrates that the method can be used on wound or solid construction balls alike. Thus, by the mid 1990s, polyurethane had been proven as a commercially viable cover material on multiple construction types.

In 1995, one of ordinary skill in the art would unquestionably be motivated to use the cover layer material used on the #1 ball on the PGA Tour when choosing cover layer candidates for a multi-layer solid ball. Polyurethane had been widely known as a cover layer in the art through previous products, patents, and other literature, for decades. By the time the '293 patent application was filed, persons of ordinary skill in the art would have considered this cover-layer material on any type of golf ball construction. As such, combining this material with Nesbitt's or

⁴² *Id.*

⁴³ See Nesbitt Depo. Trans. (Ex. E to Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120) at 68:20—69:15.

⁴⁴ Declaration of William Morgan (Ex. K) at ¶ 22.

⁴⁵ *Id.*

⁴⁶ Love Decl. (Ex. I) at ¶ 10.

⁴⁷ *Id.*

⁴⁸ United States Golf Association Conforming Golf Balls, Effective March 27, 1995 (Ex. L) at 46-47.

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Proudfit's construction would have been obvious to one of ordinary skill in the art, as the BPAI correctly held in the related Sullivan application.

**IV. CALLAWAY'S RESPONSE FAILS TO OVERCOME THE
WELL-SUBSTANTIATED OBVIOUSNESS REJECTIONS SET
FORTH IN THE OFFICE ACTION OF FEBRUARY 27, 2007**

A. Nesbitt In View Of Molitor '637

Claims 1-8 stand rejected under 35 U.S.C. § 103 over Nesbitt in view of Molitor '637.

As an initial matter, as discussed above, Nesbitt incorporating Molitor '637 should also be applied to reject claims 1-8 as anticipated under 35 U.S.C. § 102(b). Furthermore, Callaway makes no attempt to distinguish the claims over the prior art when the claims are given their broadest reasonable construction. Hence, these rejections should be maintained. Callaway does not even try to show that the inherent properties of the materials found in these references and relied upon by the Examiner would not fall within the claimed ranges, even under its inappropriately narrow construction. Hence, the rejections should be maintained for this reason as well.

Callaway argues that the Nesbitt reference "teaches away" from the use of the polyurethanes disclosed in Molitor '637 as the outer cover layer of a golf ball. This argument ignores the plain language of the Nesbitt patent. The Nesbitt patent states that "the [cover] layers may be formed of **natural** or synthetic polymeric material."⁴⁹ Similarly, the Molitor '637 patent discloses both synthetic ionomers and "natural polymeric materials."⁵⁰ Molitor '637 discloses polyurethane, as well as "balata or gutta percha" as examples of "natural polymeric materials."⁵¹ Thus, the language used in the Nesbitt patent encompasses all of the materials disclosed by Molitor '637, including polyurethanes, balata, and gutta percha, and not simply ionomers. As further support for its position that Nesbitt does not refer to the polyurethanes of Molitor '637,

⁴⁹ Nesbitt, col. 3, ll. 51-61.

⁵⁰ Molitor '637, col. 5, ll. 20-23 (emphasis added).

⁵¹ Molitor '637, col. 5, ll. 24-26.

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Callaway cites Mr. Nesbitt's recent testimony regarding the intended scope of the reference to Molitor '637.⁵² Mr. Nesbitt, however, is a paid consultant working for Callaway. The Federal Circuit takes a dim view of such self-interested inventor testimony long after the fact, as it really sheds very little light on what the patent means. *See, e.g., Bell & Howell Document Mgmt. Prods. Co. v. Altek Sys.*, 132 F.3d 701, 706 (Fed. Cir. 1997) ("The testimony of an inventor often is a self-serving, after-the-fact attempt to state what should have been part of his or her patent application. . . ."). In addition, Mr. Nesbitt testified that he did not write any portions of the Nesbitt patent's specification, nor had he ever read Molitor '637.⁵³ As Mr. Nesbitt is not an attorney or a patent agent, his personal views on the legal issue of whether the text of the patent incorporate by reference Molitor under CAFC law and PTO practice seem completely immaterial. Therefore, this self-interested testimony as to what Nesbitt today thinks the specification was intended to encompass is of no value to the Examiner here.

Callaway argues that because the ranges of layer thicknesses disclosed in Nesbitt and Molitor '637 are not coextensive, persons of ordinary skill in the art would not combine these references. This argument ignores the fact that the ranges disclosed in Molitor '637 and Nesbitt overlap and disclose in part the same ranges.⁵⁴ The fact that minimum and maximum cover thicknesses described in these patents are different would not prevent a person of ordinary skill from realizing that the cover materials could be substituted, particularly when the ranges overlap as they do here. The Federal Circuit has addressed just this issue, finding that "where a claimed range overlaps with a range disclosed in the prior art, there is a presumption of obviousness." *Ormco Corp. v. Align Tech., Inc.* 463 F.3d 1299, 1311 (Fed. Cir. 2006). Callaway's arguments to the contrary lack support and are not persuasive.

⁵² Response to Office Action Mailed February 27, 2007 at 16.

⁵³ Nesbitt Depo. Trans. (Ex. E to Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120) at 178:25—179:22; 190:5—192:15.

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Callaway also argues that because Molitor '637 teaches that foamed cover layer thicknesses of less than 0.06 inches could not be injection molded, this would prevent one of ordinary skill in the art in 1995 from combining these materials with Nesbitt, which claims cover ranges from 0.020 inches to 0.100 inches. This argument is completely contrary to *KSR* and not well taken. First of all, Nesbitt specifically teaches one skilled in the art to look to Molitor '637 for cover materials. One skilled in the art plainly could see that Nesbitt could be combined with Molitor '637 to make balls with cover materials that are within the scope of much of the claimed range of Nesbitt. This renders the claims unpatentable. *See In re Inland Steel Co.*, 265 F.3d 1354, 1362-64 (Fed. Cir. 2001). The fact that Molitor '637 would not be used to practice the entire range is just irrelevant.

Callaway claims that prior art hardness measurements made "on the ball" are unknowable. In response, an expert in the art has produced golf balls according to the disclosures of these references.⁵⁵ A three-piece golf ball manufactured with the core of Nesbitt,⁵⁶ the inner cover layer of Nesbitt, and the polyurethane cover of Molitor '637 has an average outer cover Shore D hardness of 62.0 when measured on the ball.⁵⁷ A similar construction, this time using the blend of ionomers disclosed in Molitor '637 as the inner cover layer with the same polyurethane outer cover has an average outer cover Shore D hardness of 61.0.⁵⁸ These values fall within the "less than 64" values claimed by the '293 patent showing that these references do indeed render the '293 claims unpatentable regardless of how Shore D hardness is measured. Thus, even under Callaway's narrow claim construction, the rejection should be maintained.

B. Nesbitt In View Of Wu

Callaway again makes no effort to argue that these claims are patentable when given their broadest reasonable construction, and the rejections should therefore be maintained for that

⁵⁵ Declaration of William J. MacKnight (Ex. M) at ¶ 7.

⁵⁶ As identified in the '293 patent at col. 18, ll. 30-34; MacKnight Decl. (Ex. M) at ¶ 8.

⁵⁷ MacKnight Decl. (Ex. M) at ¶¶ 17 and 33.

⁵⁸ MacKnight Decl. (Ex. M) at ¶¶ 20 and 33.

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reason alone. Callaway also argues that Wu does not disclose Shore D values of its materials, but again fails to meet its burden of showing that the claimed Shore D values would not inherently be present in the prior art, as the Examiner found.

Callaway argues that a person of ordinary skill in the art would not be motivated to combine these references. As discussed above and in the Request for Reexamination, the Board's decision in *Ex parte Sullivan* found that a person of ordinary skill in the art would in fact be motivated to combine these references and its decision on U.S. Application No. 09/873,594 sets forth the clear reasoning why.

Callaway argues that the controlling BPAI opinion is of no use to the Examiner here, as the claims at issue in that case lacked certain trivial limitations present in the '293 patent's claims. Callaway is wrong. The BPAI opinion sets forth cogent reasoning as to why one of ordinary skill in the art would combine Wu's polyurethane with the Nesbitt construction. The differences in the claims are of no help to Callaway here, as all of the additional limitations in the '293 patent claims not in the claims in the BPAI case are all nonetheless found in Nesbitt and Wu, or else are matters of mere design choice.

As the Examiner will recall, the BPAI held that it would have been obvious to one of ordinary skill in the art at the time that the invention was made to apply a soft polyurethane outer cover of Wu to the golf ball of Nesbitt. In so holding, the BPAI stated, "it would have been obvious to one skilled in the art to have modified Nesbitt's three-piece golf ball having a spherical core, an inner layer of type 1605 Surlyn® and an outer layer of type 1855 Surlyn® by replacing the type 1855 Surlyn® in the outer layer with polyurethane as suggested and taught by Wu."⁵⁹

As the Board recognized, it would be obvious to include a polyurethane outer cover on a ball having the inner cover of Nesbitt, because Wu teaches that using a polyurethane cover for a

⁵⁹ *Ex Parte Sullivan*, 2004-0242 at 11

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golf ball will improve the cut resistance, shear resistance, durability, resiliency, and the click and feel of the golf ball—each of which is a known characteristic of a polyurethane covered golf ball.⁶⁰

For example, the only differences between the claim that was rejected by the BPAI and claim 7 of the '293 patent are: (1) claim 7 recites the flexural modulus and Shore D hardness of the polyurethane outer cover layer and, (2) dimples are claimed in claim 7.⁶¹ The additional features of claim 7, however, are all disclosed in Nesbitt and Wu.

Both Nesbitt and Wu disclose golf balls having dimples.⁶² Nesbitt also teaches that the outer cover layer should be made of a relatively soft, low flexural modulus material.⁶³ Nesbitt describes an example of an outer cover material having a flexural modulus of about 14,000 psi.⁶⁴ Nesbitt further discloses an outer cover material having a Shore D hardness of less than 65⁶⁵ As indicated above, the outer cover layer of a ball made according to these references had a Shore D hardness of 55.6 as measured on the ball.⁶⁶ Further still, Nesbitt incorporates by reference the Estane 58133 of Molitor, which is itself a polyurethane having the features claimed by the '293 patent. Wu teaches that covers made of polyurethane yield a golf ball that has a "click" and "feel" that is superior to Surlyn resins.⁶⁷

There are only a few limitations in the other claims of the '293 patent that are not claimed in the claim before the BPAI. These limitations include an ionomer resin with material flexural modulus of 15,000 to 70,000 in the inner cover layer, material flexural modulus of the outer cover, and material Shore D hardness for the inner cover layer (or "on the ball" hardness

⁶⁰ Wu at col. 1, lines 45-46; col. 2, lines 39-44; *Ex Parte Sullivan*, 2004-0242 at 11.

⁶¹ Compare '594 application, claim 1 with '293 patent, claim 7.

⁶² See Nesbitt, col. 2, lines 43-46.

⁶³ See Nesbitt, col. 2, lines 43-46.

⁶⁴ See Product Information Sheet for Surlyn (Ex. I to Request for Reexamination filed January 17, 2006); '293 patent at col. 2, lines 63-65.

⁶⁵ Nesbitt, col. 2, lines 43-49; Surlyn Data Sheet (showing that the Shore D hardness of Surlyn 1855, which is now designated Surlyn 9020 has a Shore D hardness of 55).

⁶⁶ See MacKnight Decl. (Ex. M) at ¶¶ 18 and 33.

⁶⁷ Wu col. 1, ll. 40-46.

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using Callaway's inappropriately narrow claim construction). However, all of these limitations are inherently present in Nesbitt. For example, Surlyn 1605 (8940), the ionomer resin of Nesbitt's inner cover has a flexural modulus of 51,000.⁶⁸ The Shore D hardness of this material is 65 when measured off the ball.⁶⁹ Mr. Nesbitt testified that when he measured this material on his three-piece ball, it was even higher.⁷⁰

As is apparent, the differences between the claims of the '293 patent and the claims the Board rejected in the *Ex parte Sullivan* decision are not patentably significant and are all features shown in Wu or Nesbitt. Thus, the rationale of the Board in *Ex parte Sullivan* is equally applicable to the claims of the '293 Patent. Thus, it would have been obvious to modify the golf ball of Nesbitt to have a soft polyurethane outer cover with a Shore D hardness of about 55 and having a flexural modulus of about 14,000 psi in accordance with the teachings of both Nesbitt and Wu.

Despite Callaway's failure to overcome these rejections, an expert in the art has constructed balls according to the teachings of these patents in order to measure the Shore D hardness value on the ball. Testing of these balls shows that Callaway's arguments cannot prevail as the '293 patent's claims are unpatentable regardless of the measurement technique used.⁷¹ For example, when Wu's polyurethane is used on the Nesbitt core and the Nesbitt inner cover layer, the average Shore D hardness of the outer cover layer as measured on the ball is 56.0.⁷² Similarly, a ball comprising Nesbitt's core, the blended ionomer inner cover layer of Molitor '637, and Wu's polyurethane outer cover has an average Shore D hardness of 55.6.⁷³

⁶⁸ See Product Information Sheet for Surlyn (Ex. I to Request for Reexamination filed January 17, 2006).

⁶⁹ See *id.*

⁷⁰ Nesbitt Depo. Trans. (Ex. E to Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120) 244:6—244:17.

⁷¹ MacKnight Decl. (Ex. M) at ¶ 33.

⁷² MacKnight Decl. (Ex. M) at ¶¶ 18 and 33.

⁷³ MacKnight Decl. (Ex. M) at ¶¶ 21 and 33.

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Thus, regardless of how Shore D hardness values are measured, this combination renders the claims of the '293 patent unpatentable.

Therefore, these rejections should be maintained.

C. Nesbitt In View Of Molitor '751

Once again, Callaway does not argue that these claims are patentable when given their broadest reasonable construction, and the rejection should therefore be maintained for that reason alone.

Callaway argues that the Shore C hardness values disclosed in Molitor '751 cannot be converted to Shore D values, and that therefore a person of ordinary skill in the art would not have been motivated to substitute the polyurethane/ionomer blend of Molitor '751 for the outer cover layer in Nesbitt.⁷⁴ This argument is flat wrong.

As an initial matter, the specification of the '293 patent itself explicitly equates Shore C and Shore D hardness values stating that a polyurethane with a Shore D hardness of about 45 would have a Shore C hardness of about 65.⁷⁵

Furthermore, Callaway's sophistry is belied by the applicant's own statements during the prosecution of a related patent, U.S. Patent No. 6,595,873, also under reexamination. During the prosecution of the '873 patent, Callaway converted Shore C readings to Shore D readings to overcome a rejection. Callaway stated there that "A Shore C of 65 **converts** to a Shore D of less than 64, approximately 40-50, as shown by both Table 4 on page 14 of GB2276628 and a comparison chart from the Rex Gauge Company (copies attached as Appendix A and Appendix B)."⁷⁶

By referring to the same charts that the applicant relied upon during prosecution of the related '873 patent, it is clear that the most preferred range of Shore C hardness values disclosed

⁷⁴ Response to Office Action Mailed February 27, 2007 at 23.

⁷⁵ See '293 patent, col. 3, ll. 49-54 ("Preferably, . . . the outer layer comprised a polyurethane and has a Shore D hardness of about 45 (i.e., Shore C hardness of about 65).").

⁷⁶ U.S. Application Serial No. 09/776,278 (Ex. N), Response to Office Action, March 14, 2002 (emphasis added).

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in Molitor '751 (72-76) would translate to a Shore D hardness of less than 64 (in fact less than 60). The applicant made this argument to the PTO in order to have nearly identical claims of a related application allowed. Callaway can hardly dispute that using this same chart to convert Shore C values to Shore D values here demonstrates that the references can be combined.

Furthermore, duPont provides a Chart for the purpose of Translating Shore Hardness measurements. This Table is attached as **Exhibit O**. As demonstrated by this Exhibit, any Shore C measurement of 77 or less converts to a Shore D of 58 or less. Thus, the entire preferred range identified in Molitor '751 falls within the ranges claimed in the '293 patent.

Finally, in Mark Binnette's Declaration in the file history of U.S. App. Serial No. 08/631,613 discussed above, Mr. Binnette sets forth both Shore C and Shore D hardness measurements for various samples made "on the ball."⁷⁷ The values of these measurements are set forth below:

Shore C	Shore D
97	70
96	68
97	70
96	68
97	70
97	70
75	49
75	49
84	57
83	57

⁷⁷ Binnette Decl. (Ex. F) at 4.

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72	48
83	56

As can be seen, according to Callaway's own data, Shore C measurements below the mid-80s when measured on a golf ball fall well below 64 Shore D. For these reasons, Callaway's assertion in its Response that "Molitor '751's Shore C values would have told the ordinary skilled artisan nothing regarding Shore D values,"⁷⁸ is completely false and misleading.

Callaway also argues that Molitor '751 provides no motivation to combine a polyurethane/ionomer foam blend with a low acid containing inner cover layer having a Shore D hardness of at least 60.⁷⁹ As an initial matter, this is simply wrong. Molitor '751 specifically states that the covers of his invention can be used on "balls having a solid layer beneath the cover as disclosed, for example, in U.S. Patent No. 4,431,193 to Nesbitt" As the Examiner will recall, Nesbitt discloses an inner cover layer made of 1605 Surlyn.⁸⁰ The applicant has admitted that Surlyn 1605 is now designated as Surlyn 8940 low-acid ionomer resin,⁸¹ and that Surlyn 8940 has an acid content of about 15%.⁸² The material hardness of Surlyn 1605 (8940) is 65.⁸³ The material hardness of Surlyn 1605 (8940) measured on the ball would be "slightly higher" than this value of 65.⁸⁴ Thus, Molitor '751 **does** provide a motivation to combine itself with a golf ball with a low-acid inner cover layer having a Shore D hardness of at least 60, regardless of how Shore D is measured—specifically the core and inner cover disclosed in the Nesbitt patent.

Furthermore, in addition to Molitor '751's explicit suggestion to use a polyurethane/ionomer cover layer with Nesbitt's core and inner cover, the motivation to combine Nesbitt with Wu identified by the BPAI in *Ex Parte Sullivan* would apply with equal force to

⁷⁸ Response to Office Action Mailed February 27, 2007 at 29.

⁷⁹ Response to Office Action Mailed February 27, 2007 at 23.

⁸⁰ Nesbitt, col. 2, ll. 34-37.

⁸¹ '293 patent, col. 2, ll. 55-57.

⁸² '293 patent, col. 8, ll. 20-24.

⁸³ See Product Information Sheet for Surlyn (Ex. I to Request for Reexamination filed January 17, 2006).

⁸⁴ Nesbitt Depo. Trans. (Ex. E to Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120) at 243:24—244-17.

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Nesbitt and Molitor '751. Molitor '751 sets forth advantages of his polyurethane/ionomer cover that are similar to the advantages identified by Wu. Specifically, Molitor '751 states that this cover material is "more durable and cut resistant than balata rubber-covered balls," and have "short iron and other playability characteristics equal to or exceeding thread wound balata covered balls."⁸⁵ Thus, one of ordinary skill in the art would be motivated to combine Molitor '751's cover composition with the Nesbitt ball for the same reasons identified by the BPAI in relation to the Nesbitt and Wu combination. Such a combination is even more appropriate under the new common sense *KSR* standard, as it allows the Examiner to consider the "common sense" knowledge that a person of ordinary skill in the art possess regarding polyurethane.

Finally, an expert in the art has manufactured golf balls according to the teachings of Nesbitt and Molitor '751. The properties of these balls are set forth in the attached MacKnight Declaration (Ex. L), and show that regardless of how Shore D hardness is measured, the claims are unpatentable over this combination. For example, a ball made with Nesbitt's core, Nesbitt's inner cover layer, and Molitor '751's polyurethane/ionomer blend⁸⁶ as an outer cover has an outer cover Shore D hardness of 50.1 as measured on the ball.⁸⁷ A similar ball made with Nesbitt's core, Molitor '637's inner cover layer and Molitor '751's outer cover layer had an outer cover Shore D hardness of 49.6 as measured on the ball.⁸⁸ Once again, the claims of the '293 patent are unpatentable regardless of how Shore D hardness is measured.

For the foregoing reasons, the Examiner was correct in concluding that claims 1-8 would have been obvious over Nesbitt in combination with Molitor '751 and these rejections should be maintained.

⁸⁵ Molitor '751, col. 2, l. 65—col. 4, l. 5.

⁸⁶ The outer cover layer material that was tested used a slightly harder Surlyn (1605, now 8940), than the Surlyn described in Example 4 of Molitor 751, so the hardness measurements using the outer cover layer material of Example 4 would be even softer than those set forth for Molitor 751 in this table. See MacKnight Decl. (Ex. M) at ¶ 15.

⁸⁷ MacKnight Decl. (Ex. M) at ¶¶ 19 and 33.

⁸⁸ MacKnight Decl. (Ex. M) at ¶¶ 20 and 33.

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D. Proudfit In View of Molitor '637

Claims 1, 2, 4, 5, 7, and 8 stand rejected under 35 U.S.C. § 103 over Proudfit in view of Molitor '637. As discussed above, Callaway makes no effort to overcome the Examiner's rejections when the claims are given their broadest reasonable construction. Hence these rejections should be maintained. Callaway also argues once again that these references do not disclose Shore D values of their materials, but again fails to meet its burden of showing that the claimed Shore D values would not inherently be present in the prior art, as the Examiner found.

As with the Nesbitt/Molitor '637 combination, Callaway argues that because the minimum and maximum cover layer thicknesses disclosed in these references are not identical, a person of ordinary skill in the art could not combine these references. Once again, this argument ignores the fact that the cover layer thicknesses disclosed in these references overlap and fall within the ranges claimed by the '293 patent. Thus these rejections are appropriate.⁸⁹ As with the Nesbitt and Molitor '637 combination, the fact that the minimum and maximum cover thicknesses described in these patents are different would not prevent a person of ordinary skill from realizing that the cover materials could be substituted, particularly when the ranges disclosed in each reference overlap, as they do here.⁹⁰

Callaway states that Proudfit does not describe an inner cover layer having the properties recited in the '293 patent claims.⁹¹ Callaway then implies that Proudfit does not disclose a low-acid ionomer by attacking the Examiner's conclusions to the contrary. What Callaway does not disclose to the Examiner is that Table 6 of the Proudfit patent sets forth a blend of Surlyn 8940 and Surlyn 9910 as the inner cover layer material. The specification of the '293 patent clearly

⁸⁹ See *In re Inland Steel Co.*, 265 F.3d 1354, 1362-64 (Fed. Cir. 2001) (finding that where one prior art reference disclosed a range of less than .02% for an ingredient, a second prior art reference disclosed a range of less than .05%, and claims under reexamination claimed a range of less than .06%, a person of ordinary skill in the art would reasonably expect to succeed in combining the prior art references to reach the claimed range).

⁹⁰ See *id.*

⁹¹ See Response to Office Action Dated February 27, 2007 at 25 n.57.

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identifies both of these materials as low-acid ionomers.⁹² Callaway's assertions to the contrary are incorrect.

Callaway also argues that there is no motivation to combine these references. However, the Examiner set forth a motivation to combine these references that would clearly satisfy the Supreme Court's *KSR* standard. Specifically, he noted that based upon prior art patents and publications, polyurethane was well-known as a substitute for balata to those skilled in the art, and was also known to have numerous advantages over balata.⁹³ This motivation is consistent with the motivation to combine Nesbitt and Wu identified by the BPAI. Once again, this specific finding shows why one of ordinary skill in the art would combine these references.

These explicit findings based on the printed prior art's teachings satisfied the Federal Circuit's TSM test. However, when the explicit teachings of Molitor '637 and other polyurethane patents are paired with the broader, implicit knowledge of persons of ordinary skill in the art, as *KSR* requires, this combination becomes unassailable. Once persons of ordinary skill in the art brought to bear their knowledge of polyurethane they would certainly consider replacing the balata of Proudfit with superior-performing polyurethanes such as those disclosed in Molitor '637, more than a decade before Proudfit issued. Thus, this combination is appropriate.

Callaway also argues that the Examiner's reliance upon the Wilson Ultra Tour Balata as representative of the properties of a ball made according to the Proudfit patent is misplaced.⁹⁴

Callaway's arguments are not well-taken. The fact of the matter is that the Wilson Ultra Tour Balata ball is representative of the Proudfit patent. It is a three-piece golf ball with an outer cover layer comprising cis-polybutadiene, and synthetic balata (or trans-polyisoprene). These are the main ingredients disclosed in Proudfit's outer cover layer.⁹⁵ The intermediate layer of the

⁹² See '293 patent col. 8, ll. 20-27.

⁹³ See Office Action dated February 27, 2007 at 31.

⁹⁴ Response to Office Action Mailed February 27, 2007 at 24-25

⁹⁵ Proudfit, Table 7.

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Wilson Ultra Tour Balata as identified in the testing report contains sodium and zinc Surlyns. Table 6 of Proudfit identifies the inner cover composition of this ball as comprising "Sodium - Surlyn 8940" and "Zinc - Surlyn 9910. The compression of the Wilson Ultra Tour Balata was 99-105. In Table 5, Proudfit identifies a core with "100 compression." Furthermore, Wilson Ultra Tour Balata balls were marked with the Proudfit patent. Thus the disclosure of Proudfit is embodied in the Wilson Ultra Tour Balata. Callaway's strawman arguments to the contrary have no merit.

To provide additional evidence to the Examiner regarding the properties of the golf ball disclosed in Proudfit, an expert in the art has manufactured a golf ball according to the teachings of the Proudfit patent and Molitor '637. Measurements taken of this ball indicate that Shore D hardness measurements made on the ball fall within the claims of the '293 patent. For example, a golf made with Proudfit's core, Proudfit's inner cover layer, and Molitor '637's cover has a Shore D hardness of 59.4 as measured on the ball.⁹⁶ Therefore, the '293 patent's claims are unpatentable even when measured according to Callaway's narrow and improper claim construction.

For the foregoing reasons, these rejections should be maintained.

E. Proudfit In View Of Wu

Callaway again makes no effort to overcome the Examiner's rejections when the claims are given their broadest reasonable construction. Hence these rejections should be maintained. Callaway also argues once again that these references do not disclose Shore D values of their materials, but again fails to meet its burden of showing that the claimed Shore D values would not inherently be present in the prior art, as the Examiner found. Therefore, these rejections should be maintained.

⁹⁶ MacKnight Decl. (Ex. M) at ¶¶ 22 and 33.

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Callaway makes additional arguments also set forth above in relation to the Nesbitt / Wu rejection. Once again these arguments have no merit, as measurements of golf balls made according to the teachings of these patents clearly render claims of the '293 patent unpatentable.⁹⁷ For example, a golf ball consisting of Proudfit's core, Proudfit's inner cover, and Wu's polyurethane has a Shore D hardness of 56.8, well within the "less than 64" claimed by the '293 patent.

Callaway further states that a person of ordinary skill in the art would not have been motivated to substitute Wu's polyurethane for the outer cover of Proudfit. In light of *KSR*, this argument must fail, because as the Examiner recognized, persons of ordinary skill in the art had known for decades that polyurethane made an excellent golf ball cover material, and would consider it as a cover layer for any type of construction.⁹⁸ Again, the rationale used by the BPAI to satisfy the Federal Circuit's TSM test in relation to the Wu and Nesbitt patents would apply with equal force to Wu and Proudfit. Furthermore, in addition to the explicit teachings in the prior art, as discussed above, persons of ordinary skill in the art would have looked to the materials utilized in commercial balls such as the top-selling Titleist Professional. They would have recognized that the material utilized on this ball, polyurethane, performed extremely well, and was wildly commercially successful. Therefore, they would have considered substituting this "balata substitute" for the balata of Proudfit's ball. As such, there is more than sufficient evidence to justify this combination.

⁹⁷ MacKnight Decl. (Ex. M) at ¶¶ 24 and 33.

⁹⁸ M. Sullivan, "History and Construction of Non-Wound Golf Balls" *Science and Golf III: Proceedings of the 1998 World Scientific Congress of Golf* at 409 (1999) (Ex. D to Request for Reexamination filed January 17, 2006); U.S. Patent No. 3,989,568 (Ex. H) col. 3, ll. 55-57 ("The core used with [a polyurethane cover] may be any core which is suitable for use in a golf ball."); U.S. Patent No. 4,442,282 (Ex. J) col. 4, ll. 34-42 (stating that polyurethane covers may be used with wound or solid core golf balls).

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F. Proudfit In View Of Molitor '751

As with the Nesbitt and Molitor '751 combination Callaway tries to argue that Shore C hardness values cannot be translated to Shore D values.⁹⁹ As set forth above, Callaway said exactly the opposite during the prosecution of the related '873 patent, and represented to the PTO that Shore C and Shore D hardness measurements **could be converted**. Further, there are many published methods for making this conversion. One skilled in the art would unquestionably recognize that the Shore C values in Molitor would convert to a Shore D of less than 60.

Callaway also states that when Molitor '751 suggests combining the polyurethane/ionomer cover with a multi-layer ball, "it is in a ball having very different structure and properties from the claimed balls—specifically a ball in which a soft, thick layer lies between the core and polyurethane/ionomer blend outer cover layer." Presumably this statement refers to Molitor '751's suggestion to use his polyurethane/ionomer blend with "a ball having a separate solid layer beneath the cover as disclosed, for example, in [Nesbitt], and other balls having non-wound cores."¹⁰⁰

Callaway badly misrepresents the disclosure of the Nesbitt patent by describing its inner cover layer as soft and thick. Nesbitt claims an inner cover layer of 0.020 to 0.070 inches.¹⁰¹ The '293 patent by comparison claims thicknesses of 0.1 inches to 0.010 inches. Thus, the '293's claims actually claim a thicker cover layer than Nesbitt's. Similarly, the inner cover layer of Nesbitt is Surlyn 1605 (8940).¹⁰² This is in fact a *very* hard ionomer resin, having among the highest Shore D values of any ionomer.¹⁰³ Furthermore, the inner cover of Proudfit is made of this same ionomer, Surlyn 8940 as well as Surlyn 9910.¹⁰⁴ Additionally, the thickness ranges of

⁹⁹ Callaway even goes so far in its Response as to tell the Examiner that "Shore C values would have told the ordinary skilled artisan **nothing** regarding Shore D values. Response to Office Action Mailed February 27, 2007 at 29 (emphasis added).

¹⁰⁰ Molitor '751, col. 3, ll. 7-12.

¹⁰¹ Nesbitt, claim 5.

¹⁰² Nesbitt, col. 2, ll. 34-39.

¹⁰³ Nesbitt Depo. Trans. (Ex. E to Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120) at 244:11—244:17.

¹⁰⁴ Proudfit, Table 6.

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Nesbitt and Proudfit's inner covers overlap. To suggest that the inner cover layer of Proudfit is substantially different from the inner cover layer of Nesbitt is just wrong. Given the disclosure of Molitor '751 regarding the suitability of its covers for three-piece balls, and paired with their knowledge of polyurethane products, patents, and publications, persons of ordinary skill in the art would have been more than capable of making this combination. Such a combination would again be in keeping with the BPAI's finding that a person of ordinary skill in the art would combine a polyurethane-cover golf ball patent with a three-piece golf ball patent.

Therefore, these rejections should be maintained.

**V. CALLAWAY'S COMMERCIAL SUCCESS AND UNEXPECTED
RESULT ARGUMENTS DO NOT EVIDENCE NONOBVIOUSNESS
BECAUSE THEY ARE BASED ON AN ILLUSORY LINK BETWEEN
THE '293 PATENT AND ACUSHNET'S PRO V1 GOLF BALL**

Callaway's commercial success and unexpected results arguments are unsupported, misleading, and wrong. In its desperate effort to uphold the patentability of the '293 claims, Callaway fatuously asserts that "Mr. Sullivan's patented technology" was "a classic case of unexpected results" and a "phenomenal success."¹⁰⁵ These arguments are all predicated on the patently untrue assertion that the '293 patent discloses or describes the Titleist Pro V1 golf ball. In this section we will show that:

- 1) Mr. Sullivan did not invent the Pro V1 (or any of the golf balls mentioned in Callaway's Response);
- 2) The '293 patent does not disclose the Pro V1 ball;
- 3) To the extent any of the claims of the '293 patent cover the Pro V1, there is no nexus between the commercial success of the Pro V1 and the technology claimed in the '293 patent, as scores of patents cover the Pro V1 and methods of making it;
- 4) The '293 patent did not "solve" the "long and soft" problem of a ball that would play very long, like solid construction balls, but would have the soft feel and spin

¹⁰⁵ Response to Office Action Mailed February 27, 2007 at 7.

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of balata balls any more than the hundreds of other patents that claim to have solved the problem; and

- 5) Changes in market forces, not the '293 patent, were responsible for the adoption of multi-layer golf balls.

A. The Named Inventor on the '293 Patent Did Not Invent The Pro V1, The Rule 35, Or Any Other Three-Piece Golf Ball On The Market

During the 1990s, the named inventor, Mr. Sullivan, was employed by Spalding Sports Worldwide. Mr. Sullivan ceased working for Spalding in 1999. Several years later, in 2003, Callaway acquired the remnants of Spalding Sports Worldwide's golf division out of bankruptcy. While employed by Spalding, Mr. Sullivan filed U.S. Patent Application No. 08/556,237, the grandparent application of this patent in 1995. Spalding, however, did not introduce a three-piece, solid construction, urethane ball into the market until 2002, years after Acushnet introduced the Pro V1 and after Mr. Sullivan left the company.

Callaway repeatedly suggests that the successful Pro V1 golf ball was the invention described in Mr. Sullivan's '293 patent. This argument is simply false. The Pro V1 was invented at Acushnet Company a separate company, in the mid to late 1990s. The attached declarations of Mr. Morgan and Mr. Bellis describe the process through which the Pro V1 was developed.¹⁰⁶ Mr. Sullivan did not invent the Pro V1.

Similarly, Callaway points to its own Rule 35 Ball as another example of Mr. Sullivan's invention.¹⁰⁷ To our knowledge, the Rule 35 ball was developed by Callaway and first sold in 2000. At that time Callaway had no connection to Mr. Sullivan or the 293 patent. Callaway only acquired the '293 patent years later, in 2003, when they bought the patent and many other assets out of the bankruptcy estate of Spalding.

To the best of Acushnet's knowledge, Mr. Sullivan has never developed a solid construction, three piece urethane golf ball that has been sold by anyone, anywhere in the world.

¹⁰⁶ See Morgan Decl. (Ex. I) at ¶¶ 35-52 and Declaration of Gerald M. Bellis (Ex. P) at ¶¶ 64-77.

¹⁰⁷ Response to Office Action Mailed February 27, 2007 at 6.

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B. The '293 Patent Does Not Disclose The Pro V1

The construction of the Pro V1 is not disclosed or suggested by the '293 Patent. The specification of the '293 patent discloses a three piece, double-cover ball. However, it describes a host of materials that can be used as the outer cover layer including: ionomers, including soft ionomers and blends of hard and soft ionomers; other soft, thermoplastic and thermoset materials; thermoplastic urethanes; thermosetting urethanes; and polyester amides. In other words, the '293 patent contains the most general teaching of a double-cover ball, soft over hard, and is not embracing any particular material as preferred. In fact, the '293 patent has only one example, Example 4, devoted to castable polyurethane covers. All told, the '293 patent devotes barely two pages to a discussion of the urethane construction Callaway touts in its response to the Office Action, and instead devotes the majority of its disclosure to ionomer over ionomer balls. This short disclosure describes a ball that is nothing like the Pro V1.

The Pro V1 has a very large solid core, at 1.530", one of the largest ever used in a golf ball.¹⁰⁸ (cite) This core is made to an optimized low compression to reduce the spin characteristics of the ball. The '293 patent describes little about the core of the golf ball. It discloses examples of core sizes much smaller than the Pro V1, at 1.43" and 1.47." In fact, the claims of the '293 patent are not even limited to solid construction balls.¹⁰⁹ Furthermore, the specification states that, "The golf balls of the present invention can be produced by . . . injection molding or compression molding the inner cover layer about wound or solid molded cores . . ."¹¹⁰ The '293 patent thus does not describe the Pro V1 core.

The Pro V1 combines a very thin inner cover with a super thin (0.030"), veneer outer layer of castable, patented MDI-based polyurethane.¹¹¹ The '293 patent teaches nothing about this combination. Instead, it claims broad, general ranges of 0.010 to 0.100" for the inner cover

¹⁰⁸ See Titleist Pro V1 Specifications (available at <http://www.titleist.com/golfballs/prov1.asp?spec=1>) (Ex. Q).

¹⁰⁹ See, e.g., '293 patent, claim 1.

¹¹⁰ See '293 patent, col. 15, ll. 14-20.

¹¹¹ See Titleist Pro V1 Specifications (available at <http://www.titleist.com/golfballs/prov1.asp?spec=1>) (Ex. Q).

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layer, and 0.010 to 0.070" for the outer cover. Furthermore, the polyurethane examples (Nos. 23-24) in the '293 patent look nothing like the Pro V1, as the following table shows:¹¹²

Ball Property	293 Patent Example 4	Pro V1
Core Size	1.47"	1.530"
Core Compression	58	82
Inner cover material	Iotek 830/7030 blend	Proprietary, but different.
Inner cover thickness	0.11"	0.045"
Outer cover material	Baytek RE832	Patented, MDI polyurethane
Outer cover thickness	0.1"	0.030"

As such, the Pro V1 and the technology that made it substantially better-performing than the Callaway Rule 35 balls are not disclosed anywhere in the '293 patent.

**C. There Is No Nexus Between The Commercial Success Of
The Pro V1 And The '293 Patent**

Callaway argues that the commercial success of the Pro V1 and the praise that this ball have received should overcome the Examiner's findings that the '293 patent is obvious in light of the prior art.¹¹³ However, where as here, the prior art so clearly teaches and suggests the claimed invention, a conclusion of obviousness is appropriate notwithstanding any secondary considerations of nonobviousness. *See, e.g., Anderson's Black Rock, Inc. v. Pavement Salvage, Inc.*, 90 S. Ct. 305 (1969) ("commercial success and long felt want are factors used to resolve doubt as to a patentable invention and not to inject or create such doubt"). *In re Inland Steel Co.*, 265 F.3d 1354, 1366 (Fed. Cir. 2001) (finding that the objective indicia of nonobviousness was "insufficient to overcome the strong prima facie obviousness case."); *Sandt Tech, Ltd. v. Resco Metal and Plastics Corp.*, 264 F.3d 1344 (Fed. Cir. 2001) (secondary considerations, including

¹¹² See Titleist Pro V1 Specifications (available at <http://www.titleist.com/golfballs/prov1.asp?spec=1>) (Ex. Q).

¹¹³ Response to Office Action Mailed February 27, 2007 at 6-10.

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commercial success could not overcome the evidence of obviousness). The prior art references before the Examiner clearly disclose the claimed invention, and Callaway cannot use commercial success evidence, especially very misleading evidence, to try to create some metaphysical doubt about the Examiner's obviousness conclusion.

Furthermore, to establish a nexus between the Pro V1's success and the '293 patent, Callaway must show that the Pro V1 is commensurate in scope with the breadth of the '293 patent's claims.¹¹⁴ This it has not done. A "nexus" designates a legally and factually sufficient connection between the proven success of the patented invention, such that the objective evidence should be considered in the determination of nonobviousness.¹¹⁵ The burden of proof as to the nexus resides with the patentee.¹¹⁶

The success of the Pro V1 is not due to the subject matter of the '293 patent.

The Pro V1 is made by Acushnet and sold under the Acushnet premier brand Titleist. Titleist's mission has long been to be the leading brand of the golf professional and the golf pro shop because this represents and reinforces Titleist's reputation for premium quality and performance.¹¹⁷ The personal use, endorsement, and recommendation by the golf professional was the foundation of Titleist's early success, and remains an important competitive advantage today.¹¹⁸ The golf professional and on-course markets have always been a top priority for Titleist.¹¹⁹

Titleist utilizes a marketing approach called its Pyramid of Influence strategy. The Pyramid of Influence strategy posits that the very best golfers would demand and prefer the very best product to maximize their performance, and that serious amateur golfers would watch and

¹¹⁴ See *In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983) ("It is well settled that 'objective evidence [of] non-obviousness must be commensurate in scope with the claims which the evidence is offered to support.'") (quoting *In re Tiffin*, 448 F.2d 791, 792 (CCPA 1971)).

¹¹⁵ See, e.g., *Demaco Corp. v. F. Van Landsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988).

¹¹⁶ *Id.*

¹¹⁷ Bellis Decl. (Ex. P) at 21.

¹¹⁸ *Id.*

¹¹⁹ *Id.*

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follow the example established by those professional golfers.¹²⁰ Titleist believes that this strategy is best accomplished and most effective when a golf ball is the most preferred by many golfers rather than the ball of choice or endorsement by an elite few.¹²¹

Titleist balls, of various constructions, have been the most played ball at the U.S. Open each year for 58 consecutive years.¹²² For the past 25 years, Titleist has been played by the majority of professional players on the U.S. PGA Tour and more than all other golf balls combined.¹²³ For example, in 1990, 69% of players at PGA Tour events played Titleist balls.¹²⁴ Through the mid-1990s Titleist's share of PGA golfers varied between 60 and 70 percent.¹²⁵ By 2006, this share had increased to 73%. The widespread adoption of the Pro V1 by tour players thus does not represent a revolution of some sort, as Callaway indicates. The fact of the matter is that professional golfers had always preferred Titleist balls by a wide margin, and the Pro V1 was the newest and best-performing ball in the Titleist line-up.¹²⁶ Thus, it is not surprising that this latest Titleist product was widely adopted by pro players just as the Titleist Professional and Tour Balata were before it.

Additionally, Titleist has a long history of marketing excellence that has further elevated the brand, product image, market shares, and sales.¹²⁷ Titleist is a leader in golf ball advertising while promoting its Pyramid of Influence success via its Leadership Advertising.¹²⁸ Additionally, major Titleist models, or micro-brands also are supported by product specific advertising that communicates the features and benefits to the target market.¹²⁹ Titleist is also the leader in investment toward in-shop merchandising which is best represented by the Titleist

¹²⁰ *Id.* at 23.

¹²¹ *Id.* at 23.

¹²² *Id.* at ¶ 25.

¹²³ *Id.* at ¶ 25.

¹²⁴ *Id.* at ¶ 53.

¹²⁵ *Id.* at ¶ 54 and 65.

¹²⁶ *Id.* at ¶¶ 62 and 63.

¹²⁷ *Id.* at ¶ 26.

¹²⁸ *Id.* at ¶ 26.

¹²⁹ *Id.* at ¶ 26.

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"Merchandising Matters" campaign of 2004.¹³⁰ In the past 10 years, Titleist has increased its annual marketing investment from under \$10 million per year to over \$15 million per year, and during that time Titleist's consumer share has increased from just over 40% to just over 50%.¹³¹ Thus, much more than technology contributes to the commercial success of all Titleist products, including the Pro V1, and technology alone does not account for the commercial success of this ball.

Furthermore, the technology that makes the Pro V1 successful is not in any way attributable to the '293 patent. The performance of the Pro V1 is due to the large soft core, thin double cover, ultra-thin veneer layer of patented, MDI polyurethane, and patented aerodynamic properties of that ball. The Pro V1 also benefits from Acushnet's extensive research into manufacturing and testing techniques.

In fact, **OVER 60** Acushnet patents directed to a wide variety of technologies and processes cover various versions of the Pro V1 golf balls.¹³² In the litigation between the parties,

¹³⁰ *Id.* at ¶ 27.

¹³¹ *Id.* at ¶ 27.

¹³² A list of patents covering the Pro V1 that was prepared in another litigation listed the following patents as apparently covering the Pro V1: U.S. Patent Nos.: 7,156,757—Golf Ball with Improved Flight Performance; 7,105,610—Thin-Layer-Covered Golf Ball with Improved Velocity; 7,090,798—Multi-Layer Golf Ball with a Thin Thermoset Outer Layer; 7,044,864—Low Deformation Golf Ball; 7,041,743—Thin Layer-Covered Golf Ball with Improved Velocity; 7,041,245—Method for Forming Golf Balls with Polyurethane; 7,033,532—Process and Composition for Making Multi-Layer Golf Balls Using Rigid Uncrosslinked Shells; 7,033,287—Golf Ball with Improved Flight Performance; 7,009,005—Thin-Layer-Covered Golf Ball with Improved Velocity; 6,998,445—Low Compression, Resilient Golf Balls with Rubber Core; 6,998,083—Automated Flash Removal in Golf Ball Production; 6,945,880—Golf Ball with Improved Flight Performance; 6,923,736—Golf Ball with Improved Flight Performance; 6,913,550—Golf Ball with Improved Flight Performance; 6,913,547—Thin-layer-covered Multi Layer Golf Ball; 6,872,423—Heating of Golf Balls Prior to Painting; 6,849,006—Thin Thermoset Polyurethane Covered Golf Ball Improved Velocity; 6,809,822—Apparatus and Method for Automated Game Ball Inspection; 6,797,097—Method for Making a Multilayered Golf Ball; 6,790,147—Low Modulus Golf Ball Compositions and Methods for Making Same; 6,755,912—Heating of Golf Balls Prior to Painting; 6,749,789—Method for Forming a Multilayer Golf Ball with a Thin Thermoset Outer Layer; 6,729,976—Golf Ball with Improved Flight Performance; 6,726,869—Improved Method of Making Golf Ball Mold Halves and Golf Balls Therefrom; 6,705,959—Dimple Patterns for Golf Balls; 6,679,789—Process and Composition for Making Multi-Layer Golf Balls Using Rigid Uncrosslinked Shells; 6,645,414—Method and Apparatus for Making Multi-Layered Cores or Golf Balls; 6,644,948—Mold Half; 6,635,716—Golf Ball Cores Comprising a Halogenated Organosulfur Compound; 6,634,964—Improved Initial Velocity Dual Core Golf Ball; 6,609,982—Treatment for Facilitating Bonding Between Between Golf Ball Layers and Resultant Golf Balls; 6,575,848—Low Modulus Golf Ball Compositions and Methods for Making Same; 6,494,791—Elastomeric Compositions and Methods for Making Same; 6,486,261—

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Acushnet disputes whether the '293 patent covers the Pro V1. Callaway has not proven that the '293 patent covers the Pro V1. Even if it did, however, in such a complex and multi-faceted product, it is unreasonable to suggest, as Callaway does, that because the '293 patent is overly broad and reads on the Pro V1, the commercial success of the Pro V1 demonstrates that the patent is valid. *See In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983) ("It is well settled that 'objective evidence [of] non-obviousness must be commensurate in scope with the claims which the evidence is offered to support.'") (quoting *In re Tiffin*, 448 F.2d 791, 792 (CCPA 1971)). Instead, to establish a nexus between the Pro V1's success and the '293 patent, Callaway must show that the Pro V1 is commensurate in scope with the breadth of the '293 patent's claims. As discussed above, this it cannot do. The Pro V1 is a complex product and possesses many attributes that are not even remotely suggested by the modest disclosure and broad generic claims of the '293 patent. *See Joy Technologies, Inc. v. Harry F. Manbeck, Jr.*, 751 F. Supp. 225, 229 (D.D.C. 1990) ("The claims are broader in scope than the objective evidence if a limitation or element recited in the claim is broader than the limitation or element in the objective evidence or if the objective evidence contains limitations or elements not recited in the claims (citing *White v. Jeffrey Mining Machinery Co.*, 723 F.2d 1553, 1559 (Fed. Cir. 1983) *cert. denied*, 469 U.S. 825, 83 L. Ed. 2d 49, 105 S. Ct. 104 (1984); *In re Fenn*, 639 F.2d 762, 765, 208 U.S.P.Q. (BNA) 470, 472 (CCPA 1981)). As Callaway cannot show that the claims of

Thin-Layer-Covered Ball with Improved Velocity; 6,465,578—Low Compression, Resilient Golf Balls Including an Organosulfur Catalyst and Method for Making Same; 6,358,161—Elastomeric Compositions and Multi-Layer Golf Balls Prepared with Rigid Uncrosslinked Shells; 6,132,324—Method for Forming a Multilayer Golf Ball with a Thin Thermoset Outer Layer; 6,096,255—Method for Making Multi-Layered Golf Ball; 6,093,357—Methods for Making Multi-Layer Golf Balls Using Rigid Uncrosslinked Shells; 6,042,768—Method for Forming Polyurethane Cover on Golf Ball Core; 5,957,786—Golf Ball Dimple Pattern; 5,947,843—Polyurethane Covered Golf Ball; 5,897,884—Apparatus for Forming Polyurethane Cover on Golf Ball Core; 5,795,529—Fast Thermal Response Mold; 5,733,428—Method for Forming Polyurethane Cover on Golf Ball Core; 5,725,891—Fast Thermal Response Mold; 5,334,673—Polyurethane Golf Ball; 5,158,300—Golf Ball; 5,080,367—Golf Ball; 5,060,954—Multiple Dimple Golf Ball; 5,018,742—Golf Ball Clear Coating with Optical Brighteners; 5,000,459—Golf Ball Cover; 4,949,976—Multiple Dimple Golf Ball; 4,936,587—Golf Ball; 4,929,407—Process of Making a Golf Ball; 4,915,390—Golf Ball; 4,865,326B—Optical Brighteners in Golf Ball Clear Coatings; and 4,858,923—Low Trajectory Long Distance Golf Ball.

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the '293 patent are commensurate in scope with the Pro V1, its commercial success arguments cannot save the validity of these claims.

A more discerning analysis shows that the success of the Pro V1 is not attributable to the '293 patent. For example, Spalding and Top-Flite have marked numerous balls within the broad scope of the claims of this patent.¹³³ All together, these products embodying the technology claimed in at least the '293 patent have held less than two percent of the market.¹³⁴ By comparison, the Pro V1 family golf balls have managed to hold about 20 percent of the market.¹³⁵ This shows that even if the '293 patent covers the Pro V1, this is not what is causing the commercial success of the Pro V1.

It is telling that Spalding, the owner of the '293 patent and Mr. Sullivan's former employer, allegedly developed this technology in 1995, yet chose not to commercialize it until long after the Pro V1 came to market in late-2000. This strongly suggests that the commercial success of the Pro V1 is not connected to the claims of the '293 patent. Indeed, Spalding, after filing the '293 patent's grandparent application in 1995, did not even present claims directed to a urethane outer cover until 1999, a lapse of over four years. Plainly there was no recognition at Spalding or elsewhere that the '293 patent was important or material to the next generation of golf balls of solid core, urethane covered balls like the Pro V1. As set forth above, the '293 patent explicitly states that the cover can be used on a wound core and the claims are not directed to a solid core. Nor did the '293 technology enable Spalding to enter or succeed in the golf ball market.

To the contrary, Spalding and the '293 patent wound up in bankruptcy, a commercial failure. Callaway bought the '293 patent at a bankruptcy auction, along with the other assets of Spalding. Such is the "real" story of the '293 patent, a tale of failure and bankruptcy, far

¹³³ These include the Top-Flite Strata Tour Premier, the Top-Flite Strata Tour Ace, the Top Flite TL-Tour, and the Ben Hogan line of golf balls. See Product Packaging (Ex. R).

¹³⁴ See Market Share for Urethane Golf Balls (Ex. S).

¹³⁵ See *id.*

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removed from the fable of "phenomenal success" set forth in Callaway's Response. It bears repeating that the owner of the '293 patent *wound up in bankruptcy*, while Acushnet and others, sold three-piece, solid construction balls using their own, better technology, in the market. Spalding made no products covered by the patent until after other competitors entered the market; Mr. Sullivan designed no products covered by the patent; and Spalding slid into bankruptcy while others succeeded in the market.

D. The '293 Patent Did Not Solve The Problem Of Providing A Golf Ball That Combined The Distance Of A Solid Golf Ball With The Feel Of A Wound Ball

Callaway argues that it is the subject matter of the '293 patent that has finally solved the problem of providing a golf ball that provides the distance of a solid ball with the spin and feel of a wound ball.¹³⁶ This is simply not true.

The reality is that nearly all solid golf ball patents claim that their technology eliminated the need for players to choose between the distance of a solid-core ball and the spin and control of a wound ball. For example, in concurrent litigation brought by another competitor, Acushnet identified over 150 Bridgestone patents that purport to deliver the balance of "long and soft" performance.¹³⁷ Spalding has at least 55 such patents, some going back to the 1980s that claim they are directed to provide the benefit of long distance off the tee plus soft or good feel and spin around the green.¹³⁸ Callaway itself has at least 20 patents saying the same thing, while Sumitomo has around 60.¹³⁹ In short, various inventors in the golf ball art have purported to "solve" this problem in nearly 200 different ways. The assertions made in the '293 patent are nothing more than the same type of puffery. Callaway's shameless disregard for the facts is most troubling.

¹³⁶ See Response to Office Action Mailed February 27, 2007 at 4.

¹³⁷ Morgan Decl. (Ex. K) at ¶ 74.

¹³⁸ Morgan Decl. (Ex. K) at ¶ 74.

¹³⁹ Morgan Decl. (Ex. K) at ¶ 74.

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The reality is that the competing goals of distance and feel are a design objective of nearly every golf ball design.¹⁴⁰ The recitation of this goal is ubiquitous in golf ball patents, and there is nothing special or noteworthy about the fact that '293 patent has also purported to solve this problem. Moreover, there is no reason to believe that of the hundreds of patents that make this claim that the '293 patent is the one that finally eliminated the need for a golfer to choose between distance and spin.

Even the Pro V1 is still a compromise between a distance-oriented ball and a high spin ball. There are many golf balls that are longer than the Pro V1, such as the Pinnacle Gold, and there are balls with higher spin, such as the Titleist Professional, Titleist Tour Balata and Callaway Rule 35 Blue. While the Pro V1 is an excellent ball, it does not exhibit the best possible performance in both categories, as Callaway suggests.

Callaway also makes a half-hearted attempt to represent Mr. Nesbitt's work with 3-piece polyurethane balls as a "failure of others." However, Mr. Nesbitt was in fact successful in creating this ball.¹⁴¹ He abandoned this project not because he could not make a ball that fell within the claims of the '293 patent, but because the ball had disappointing adhesion properties and a low coefficient of restitution.¹⁴² This was not a "failure" related to a lack of the features claimed in the '293 patent, the claims of which are not directed to balls with any particular coefficient of restitution or adhesion properties.¹⁴³

¹⁴⁰ Morgan Decl. (Ex. K) at ¶ 75.

¹⁴¹ Nesbitt Depo. Trans. (Ex. E to Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120) at 102:5—17.

¹⁴² Response to Office Action Mailed February 27, 2007 at 7; Nesbitt Depo. Trans. (Ex. E to Response to Office Action Mailed February 27, 2007, in Reexamination Control No. 95/000,120) at 95:3—17.

¹⁴³ See, e.g., *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1313 (Fed. Cir. 2006) (finding that "failure of others" is not probative of nonobviousness when prior efforts failed due to unclaimed features).

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**E. Market Forces Caused A Shift To Solid-Multilayer
Constructions And The Pro V1's Sales Were Consistent
With Those Of Previous Titleist Tour-Played Balls**

In 1999 Tiger Woods was one of many golfers on the PGA Tour using the Titleist Professional ball.¹⁴⁴ In that year, Mr. Woods won 10 tournaments with the Titleist Professional.¹⁴⁵ In 2000, Mr. Woods switched to the three-piece polyurethane Nike Tour Accuracy golf ball.¹⁴⁶ In 2000, Mr. Woods won 9 tournaments.¹⁴⁷ Mr. Woods' use of this ball almost certainly sparked an interest in solid construction golf balls.¹⁴⁸ However, the majority of Tour Players did not adopt a multi-layer ball until Acushnet introduced the Pro V1 under the Titleist brand.¹⁴⁹

Several factors likely caused a shift in the type of ball sought by tour professionals. Newer and improved golf equipment such as oversized metal woods and titanium drivers allowed golfers to achieve better results when they were used with a distance oriented ball with acceptable spin off the tee.¹⁵⁰ Similarly, square grooved golf clubs have affected the types of golf balls that can best benefit today's better players.¹⁵¹ Additionally, golfer's today are physically stronger and have the power to strike the ball with high club speeds, and thus benefit from a distance-oriented ball.¹⁵² Finally, Tiger Wood's success with a solid ball in 2000-01 likely attracted the attention of other Tour Professionals.¹⁵³

In short, there simply had been little demand for this type of ball on the PGA tour until shortly before the introduction of the Pro V1. Once tour professionals demonstrated that they had an interest in this type of construction, all of the major golf ball manufacturers quickly

¹⁴⁴ Love Decl. at (Ex. I) at ¶ 24.

¹⁴⁵ *Id.* at ¶ 23.

¹⁴⁶ *Id.* at ¶ 23.

¹⁴⁷ *Id.* at ¶ 23.

¹⁴⁸ *Id.* at ¶ 23.

¹⁴⁹ *Id.* at ¶ 25.

¹⁵⁰ *Id.* at ¶ 27; Bellis Decl. (Ex. P) at ¶ 81.

¹⁵¹ Bellis Decl. (Ex. P) at ¶ 20.

¹⁵² Love Decl. (Ex. I) at ¶ 27; Bellis Decl. (Ex. P) at ¶ 20.

¹⁵³ Love Decl. (Ex. I) at ¶ 27.

THIRD PARTY REQUESTER ACUSHNET COMPANY'S COMMENTS
AFTER PATENT OWNER RESPONSE FILED APRIL 27, 2007

REEXAMINATION CONTROL No. 95/000,120
ATTORNEY DOCKET No. 00634.0004.RXUS01

PAGE 46

introduced multi-layer polyurethane constructions (except for Spalding, the owner of the '293 patent at the time).¹⁵⁴

As discussed above, once tour professionals began to use these types of golf balls, better amateur golfers would also likely be influenced to purchase this construction. Additionally, amateur golfers were likely attracted to these constructions because of the improved durability of solid construction polyurethane covered balls as compared to balata covered balls, as recited in Wu.¹⁵⁵ However, this durability is inherent to polyurethanes, and is not something that Mr. Sullivan invented.¹⁵⁶

VI. CONCLUSION

For the foregoing reasons, all rejections of claims 1-8 of the '293 patent as obvious under 35 U.S.C. § 103 should be maintained. Furthermore, claims 1-8 of the '293 patent should also be rejected under 35 U.S.C. § 102(b) as anticipated by Nesbitt, as the Molitor '637 patent was properly incorporated by reference into Nesbitt. If the rejection under 35 U.S.C. § 102(b) is not added, then an Action Closing Prosecution maintaining the obviousness rejections under 35 U.S.C. §103 should promptly issue.

Dated: May 29, 2007

Respectfully submitted,



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¹⁵⁴ See Press Release from Nike (*Nike Golf Announces 2000 European PGA Tour Staff*, February 28, 2000) (Ex. T); Press Release from Titleist (*Titleist Advances Golf Ball Technology Leadership Position on PGA Tour with Debut of New Pro VI Model*, October 12, 2000 (Ex. U); "The Science of Golf Balls 7—Evolving Structures and Materials Multi-Layer Structure," October 21, 2003 (describing release of Bridgestone's first 3-piece urethane covered ball) (Ex. V); and Press Release from Spalding (*Ben Hogan Golf Signs Colin Montgomerie to Multi-Year Contract; Ryder Cup Sensation Excited About Ben Hogan Endorsement and Products*, November 1, 2002) (Ex. W).

¹⁵⁵ Love Decl. (Ex. I) at ¶ 27 (the benefits of polyurethane as a golf ball cover are best exemplified in Acushnet's Wu patent); Wu, Col. 1, ll. 40-46.

¹⁵⁶ See, e.g., Wu col. 1, ll. 40-46 ("polyurethane . . . provides superior cut resistance over balata").

EXHIBIT HH

THIRD COLLEGE EDITION

Webster's New World Dictionary®

OF AMERICAN ENGLISH

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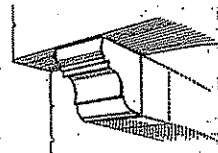
HERE

Fr. ENGLISH HORN

n. [altered < COURANTE, modeled on It. & URANTE
[Fr. *corbille* < LL *corbicula*, dim. of *L. corb(h)*], to twist > base **(s)ker-*, to turn > et of fruit, flowers, etc., used in architect.

OFr. dim. of *corb* < *L. corvus*, RAVEN: 80

n. 1 a metal bracket, f a wall cornice, etc. 2 a girthwise ring or support



CORBEL

ie fash-
res of
ise

is [ME *corbe* < OFr *corb*: see CORBEL]

corbiesteps

[REBE + STEP] one of a series of steps at

gables

REINA

BUSIER

co) mountain in SE Brazil, near Rio de

Christ the Redeemer on its top: 2,310 ft

me of CORFU

n. *corde* < *L. chorda* < Gr *chordē*, catgut

tr., intestine > YARN 1 a thick string or

ng as a tie or bond 3 [from use of a cord

of wood cut for fuel, equal to 128 cubic

n a pile 8 feet (2.4 m) long, 4 feet (1.2 m)

wide: see also FACE CORD 4 a) a rib on the

with a ribbed surface; corduroy c) [pl.]

any part resembling a cord (the spinal

cord) 6 Elec. a slender, flexible insu-

lating or plugs, as to connect a lamp to an

innet, or provide with a cord or cords

piec. & -AGE 1 cords and ropes collect-

ship's rigging 2 the amount of wood, in

% [ModL *cordatus* < *L. cor* (gen. *cordis*),

rately adv.

la), (Marie Anne) Charlotte 1768-93; Fr.

at

stened or tied with cords 2 made of or

at looks like a tight cord, as a muscle

4 surface, as corduroy 5 stacked in cords

ch. ult. < Celt *Creirnydd*, lit. daughter

name 2 in Shakespeare's *King Lear*, the

ughters, and the only one faithful to him

kör de la) *n.* [OFr < *cordelle* (see fol-)

ed cord worn as girdle] 1 in France, in

Observants 2 [after the Church of the

he meetings were held] a member of the

ary political club

al) *n.* [Fr. dim. of OFr *corde*, rope: see

crmerly used on Mississippi flatboats and

dell'ing to tow with or as with a cordelle

any of a genus (*Spartina*) of marsh

height of 3 m (9.8 ft.) in tidal mud flats

kör de al) *adj.* [ME < ML *cordialis* < *L.*

1 [Rare] stimulating the heart; inviga-

and friendly; hearty [a cordial hello], b)

ial distaste for formality] —*n.* 1 [Rare]

hat stimulates the heart 2 an aromatic

jeur —*SYN.* AMIABLE —*cor'dially adv.*

, kör ja'-; chiefly Brit kör'de al') *n.*

ndly feeling 2 pl. -ties a warm, friend-

n. [after P. L. A. Cordier (1777-1861), Fr.]

crystalline mineral, Mg₂Al₂Si₂O₁₀, a sil-

minum, with some iron in it: used some-

—*adj.* [< *L. cor* (gen. *cordis*), HEART

la le'a) *n.* [Sp < *cordilla*, dim. of *cu-rd-*

CORD] a system or chain of mountain

ain-range of a continent —*cordill'ly*

'az) 1 mountain system of W North

ountains between the E Rockies & the

system of W South America; Andes

bbed-surface of corded cloth

-TSP: so called from its stringy appear-

ance containing nitroglycerin, gun-cotton

ne

*cord-less (kōrd'lis) *adj.* 1 lacking a cord 2 operated only or optionally by batteries, unlike models operated only by current from an outlet [a cordless electric shaver]

cor-dō-ba (kōr'dō ba) *n.* [Sp *córdoba*, after F. Fernández de Córdoba, 16th-c. Sp explorer] the basic monetary unit of Nicaragua: see MONEY, table

Cor-do-ba (kōr'dō ba, -va; Sp *kórthō bá*) 1 city in NC Argentina: pop. 969,000. 2 city in S Spain, on the Guadalquivir River: pop. 285,000. 3 city in EC Mexico, in Veracruz state: pop. 126,000

cor-don (kōr'dān, kōrd'n) *n.* [OFr. dim. of *corde*: see CORD] 1 a line or circle of police, soldiers, forts, ships, etc. stationed around an area to guard it 2 a cord, ribbon, or braid worn as a decoration or badge 3 STRINGCOURSE —*vt.* to encircle or shut (off) with a cordon

cor-don bleu (kōr'dān blō) [Fr.] 1 the blue ribbon formerly worn as an emblem by Knights of the Order of the Holy Ghost, the highest order of knighthood in France under the Bourbon monarchy 2 a very high distinction 3 a person entitled to wear the cordon bleu 4 any person highly distinguished in a certain field; specif., a very skilled chef 5 stuffed with ham and Gruyère cheese, breaded and sautéed, and, often, served with a sauce (chicken breast or veal cordon bleu)

cor-don sa-ni-taire (sā nē'ter) [Fr. lit., sanitary cordon] 1 a barrier restraining free movement of people or goods, so as to keep a disease, infection, etc. from spreading from one locality into another 2 a belt of countries serving to isolate another country and check its aggressiveness or lessen its influence

Cor-do-va (kōr'dō va) *Eng. name of CORDOBA*

Cor-do-van (kōr'dō vān) *adj.* [< Sp *cordobán*, after CORDOBA] 1 of Córdoba 2 [c-] made of cordovan —*n.* 1 a native or inhabitant of Córdoba 2 [c-] a fine-grained, colored leather, usually of split horsehide, but orig. made of goatskin at Córdoba, Spain 3 [c-] [pl.] shoes made of this leather

cor-du-roy (kōr'dō roy) *n.* [prob. < *cord* + obs. *duroy*, a coarse fabric formerly produced in England: hence, corded duroy] 1 a heavy cotton fabric with a piled, velvety surface, ribbed vertically 2 [pl.] trousers made of this fabric —*adj.* 1 made of, or ribbed like, corduroy 2 made of logs laid crosswise [a corduroy road]

cord-wain (kōrd'wān) *n.* [ME & OFr *cordewan* < Prov *cordoan* < Port < Sp *cordobán*: see CORDOVAN] [Archaic] cordovan leather

cord-wain'er (-wān'ər) *n.* [ME *corduaner* < OFr *cordoanier*: see prec.] [Archaic] a shoemaker, orig. one who worked in cordovan leather

cord-wood (kōrd'wood') *n.* wood stacked or sold in cords

core (kōr) *n.* [ME < OFr *cor*, prob. < *L. cor*, HEART] 1 the hard, central part of an apple, pear, etc., that contains the seeds 2 the central or innermost part of anything 3 the most important part, as of a matter, discussion, etc.; essence; pith 4 in foundry work, that part of a mold which forms the interior of a hollow casting 5 a sample cylindrical section of the earth's strata beneath the surface of land or water, obtained with a hollow drill 6 the central region of a nuclear reactor that contains the fissile fuel, and usually, control rods, moderator, etc. 7 the wood center to which outer layers of veneer are attached 8 Chem. the nucleus together with the closed electron shells of an atom; kernel 9 Elec. a mass of iron placed inside a wire coil, serving to channel and increase the strength of the magnetic field resulting from current in the coil 10 Comput. a kind of computer memory composed of storage units made of ferromagnetic rings: in full core memory —*vt.* cored, cor'ing to remove the core of

CORE (kōr) Congress of Racial Equality

co-re-la-tion (kōr'i lā'shān) *n.* CORRELATION —*co'-rel'atively adv.*

co-re-li-gi-on-ist (kōr'i lij'ə nist) *n.* a person of the same religion or religious denomination

co-re-l'i (kōr'el'ē; It *kōr'el'ē*), Arc-an-ge-lo (ār kān'jē lō) 1653-1713; It. composer & violinist

co-re-lop-sis (kōr'el'əp'sis, kōr'ē-) *n.* [ModL < Gr *koris*, bug (< IE base **(s)ker-*, to cut > SHEAR) + *opsis*, appearance (see -OPSIS): so named from the shape of the fruit] any of a genus (*Coreopsis*) of plants of the composite family, having showy heads with yellow, crimson, or maroon ray flowers.

cor'er (kōr'ər) *n.* a cutting or piercing instrument for removing the cores of apples, pear, etc.

co-re-spond-ent (kōr'i spān'dent) *n.* [CO- + RESPONDENT] Law a

person charged with having committed adultery with the wife or

husband from whom a divorce is being sought —*co're-spond'ency*

cor't (kōrt) *n.* pl. *corves* [ME < MDu & MLowG < *L. corbis*, a

basket: see CORBEL] [Brit.] a basket or small cart, as for carrying

coal, ore, etc. in mines

Cor-fam (kōr'fam') [arbitrary coinage] trademark for a leather-

like, porous synthetic material, used for shoe uppers —*n.* this mate-

rial

Cor-fu (kōr'fū; kōr'fū, -fū'fū) 1 one of the Ionian Islands, off the

W coast of Greece: 229 sq. mi. (593 sq. km) 2 its chief city, a

seaport: pop. 34,000

cor'gi (kōr'gi) *n.* WELSH CORGI

co-ri-a-ceous (kōr'ē ə'sheə, kōr'ē-) *adj.* [LL *coriaceus* < *L. corium*,

hide: see CORIUM] of or like leather

co-ri-an-der (kōr'ē an'dər, kōr'ē an'dər) *n.* [ME & OFr *coriandre* <

L. coriandrum < Gr *koríandron*; *koríannon*] 1 a European annual

herb (*Coriandrum sativum*) of the umbel family 2 its strong-smell-

ing, seedlike fruit, used in flavoring food and liqueurs, and, for-

mally, in medicines

Co-rin-ne (kōr'īn', -rēn'; kō-, kē-) [Fr < *L. Corinna* < Gr *Korinna*, ?

dim. of *Korē*: see CORA] a feminine name

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cordless / cormorant

Cor-inth (kōr'īnth, kār'-) 1 ancient city in the NE Peloponnese, at the head of the Gulf of Corinth, noted for its luxury: fl. 7th-9d cent. B.C. 2 modern city near the site of ancient Corinth: pop. 18,000. Gr. name KORINTHOS 3 Gulf of arm of the Ionian Sea, between the Peloponnese & central Greece: c. 80 mi. (130 km) long 4 isthmus of land strip, joining the Peloponnese with central Greece: c. 4-8 mi. (6.4-13 km) wide & 20 mi. (32 km) long

Cor-in-thian (ka rīn'thē an) *adj.* 1 of Corinth, its people, or culture 2 dissolute and loving luxury, as the people of Corinth were said to be 3 in the style of the art of Corinth; gracefully elaborate 4 designating or of a classical (Greek or Roman) order of architecture, distinguished by a slender, fluted column and a bell-shaped capital decorated with a design of acanthus leaves: see ORDER, illus. —*n.* 1 a native or inhabitant of Corinth 2 a lover of elegantly luxurious living; sybarite 3 a wealthy man about town 4 a wealthy devotee of amateur sports 5 a yachtsman

Cor-in-thi-ans (-anz) [with sing. v.] either of two books of the New Testament that were letters from the Apostle Paul to the Christians of Corinth: abbrev. *Cor* or *Co*

Cor-i-o-la-nus (kōr'ē lā'nas) a tragedy (c. 1608) by Shakespeare, based on the story of Gaius Marcus Coriolanus, a legendary Roman general of the 5th cent. B.C.

Cor-i-o-lis force (kōr'ē ō'lis) [after G. G. de Coriolis (1792-1843), Fr. mathematician] an apparent force on a moving object when observed from a rotating system, as the surface of the earth: it is proportional to the speed of the object and is in a direction perpendicular to its direction of motion

co-ri-um (kōr'ē əm) *n.* pl. -ri-a (-ə) [L, skin, hide < IE base **(s)ker-*, to cut > SHEAR, *L. cortex*] 1 DERMIS 2 the elongated middle portion of the forewing of a hemipteran insect

cork (kōrk) *n.* [ME < Sp *corcho*, cork, ult. (via ? Ar *al-qurq*) < *L. quercus*, oak: see QURK] 1 the light, thick, elastic outer bark of an oak tree, the cork oak (*Quercus suber*) of the beech family, that grows in the Mediterranean area: used for floats, stoppers, linoleum, insulation, etc. 2 a) a piece of cork or something made of cork; esp., a stopper for a bottle, cask, etc. b) a similar stopper made of rubber, glass, etc. 3 Bot. the dead, waterproof outer bark of the stems of woody plants —*adj.* made of cork —*vt.* 1 to stop or seal with a cork 2 to hold back; check 3 to blacken with burnt cork

—*blow one's cork* [Slang] to lose one's temper; become enraged

Cork (kōrk) 1 county on the S coast of Ireland, in Munster province: 2,880 sq. mi. (7,460 sq. km); pop. 266,000 2 its county seat, a seaport: pop. 136,000

cork-age (-ij) *n.* [CORK + -AGE] a charge made, as at a restaurant, for opening and serving each bottle of wine or liquor bought elsewhere and brought in by a patron, or, occas., for every bottle opened and served, regardless of source

cork cambium Bot. a layer of formative cells between the cork and the cortex, from which the cork is formed

cork elm any of several tall elms (genus *Ulmus*) of the E U.S., with

corky ridges, as wahoo

corkier (kōrk'ər) *n.* [Slang senses < CORK in sense "stopper"] 1 a worker or device that corks bottles. 2 [Slang] a) a remarkable person or thing b) an argument, statement, etc. that appears conclusive c) a preposterous lie

cork-ing (kōrk'īŋ) *adj.*, *adv.*, *interj.* [< CORK] [Slang, Chiefly Brit.]

very good; excellent

cork-screw (kōrk'skrū) *n.* a device for pulling corks out of bottles, usually a spiral-shaped piece of steel with a point at one end and a handle at the other

—*adj.* shaped like a corkscrew; spiral —*vi.*, *vt.* to move in a spiral; twist

cork-wood (-wūd') *n.* 1 any of several trees whose wood is very light; specif., *ka*) the only species (*Leitneria floridana*) of a family (Leitneriaceae, order Leitneriales) of dicotyledonous shrubs or small trees found in swampy regions of the SE U.S. *ab*) the

balsa 2 the wood of any of these trees

corky (kōrk'ē) *adj.* cork-ier, cork-iest 1 of or like cork 2 having its taste and smell affected by a cork stopper that is rotten or broken: said esp. of wine

corm (kōrm) *n.* [ModL < Gr *hormos*, trunk of a tree with branches lopped off < *keirein*, to cut off < IE base **(s)ker-* > HARVEST] a

fleshy, thickened, vertical, underground stem, usually having annual segments with a bud at the tip, thin external scale leaves, and roots at the base, as in the gladiolus: corms differ from bulbs in having much more stem tissue and fewer scale leaves

Cor-mack (kōr'mak), Allan (MacLeod) 1924-; U.S. physicist, born in South Africa

—*cor-mel* (kōr'mel) *n.* [CORM + -el, dim. suffix < ME < OFr < *L. -ellus*] a new, small corm arising from a mature corm

cor-mo-rant (kōr'mə-rant) *n.* [ME *cormoraunt* < OFr *cormareng* < *corp marenc* < *L. corvus marinus* < *corvus*, RAVEN + *marinus*, MARINE] 1 any of a family (Phalacrocoracidae) of large, voracious, pelicaniform diving birds with webbed toes and a hooked beak: in the Orient, fishermen use leashed cormorants to catch fish 2 a greedy person

at, ate, cū; ten; ēve; is, ice; gō, hōrn, look, tōō; oil, out; up, fur; a for unstressed vowels, as a in ago, u in focus; ' as in Latin (lat'n); chin; she; zh as in azure (azh'ər); thin; the; ŋ as in ring (rīŋ)

In etymologies: * = unattested; < = derived from; > = from which

* = Americanism

See inside front and back covers



CORKSCREW

EXHIBIT II

DR. ROBERT J. STATZ

07/31/07

Page 1

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE DISTRICT OF DELAWARE
3

4 CALLAWAY GOLF COMPANY,

5 Plaintiff,

6 v.

C.A. No. 06-91 (SLR)

7 ACUSHNET COMPANY,

8 Defendant.
9
10
11
12

13 Tuesday, July 31, 2007

14 VIDEOTAPED DEPOSITION of Nonparty Expert

15 Witness DR. ROBERT J. STATZ, Volume 1, taken by
16 Plaintiff, pursuant to agreement, held at the
17 offices of Fish & Richardson, P.C., 919 North
18 Market Street, Wilmington, Delaware, before Amy
19 E. Sikora, CRR, CSR, RPR, CLR, Certified Realtime
20 Reporter, Certified Shorthand Reporter, Registered
21 Professional Reporter, Certified LiveNote Reporter,
22 and Notary Public within and for the State of New York.

23 JOB No. 69923
24
25

DR. ROBERT J. STATZ

07/31/07

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1 A. Yes. After I retired.

2 Q. All right. You have -- a couple
3 of the patents on which you're named as an
4 inventor relate to golf ball construction;
5 right?

6 A. Mostly materials, not
7 construction.

8 Q. Okay. Let me come at this sort
9 of another way.

10 In your expert report, one of
11 the sections is about claim construction of
12 terms in the patents; right?

13 A. Yes.

14 Q. And the one term you deal with
15 relates to measuring hardness, whether on the
16 ball or off the ball; right?

17 A. Yes.

18 Q. You do not opine on the
19 construction of the term "core"; right?

20 A. Try that one over again.

21 Q. In your report, you do not
22 discuss what you consider to be the proper
23 construction of the term "core" in the
24 patents in suit; right?

25 A. I don't remember. I'd have to

DR. ROBERT J. STATZ

07/31/07

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1 look at my report.

2 Q. Do you have an understanding
3 that in this case the parties apparently
4 dispute the meaning of the word "core"?

5 A. Yes.

6 Q. What's your understanding of
7 what that dispute is?

8 A. I have no opinion.

9 Q. No -- you have no opinion on
10 who's right, you mean?

11 A. I don't remember what position
12 was taken by either person involved.

13 Q. Okay. If I were to ask you for
14 a definition of "core" as used by people in
15 the golf ball industry, what would you tell
16 me?

17 A. It's the inner part of the golf
18 ball.

19 Q. Does it have to be a single
20 piece?

21 A. No.

22 Q. In fact, in your own patents,
23 you have described cores as -- core could be
24 multilayer or multipiece core; right?

25 MR. ROSENTHAL: Object to the

DR. ROBERT J. STATZ

07/31/07

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1 form.

2 A. I don't remember the exact words
3 in my patents. I'd have to go look at them.
4 It's been a while.

5 Q. Okay. Let me show you a couple.

6 MR. SCHERKENBACH: I'll mark as
7 Statz Exhibit 3 a copy of U.S. Patent
8 5,971,869. Title is "Golf Ball
9 Composition." Inventors are Murali
10 Rajagopalan, R-A-J-A-G-O-P-A-L-A-N, and
11 Mr. Statz. Assignee is Acushnet.

12 MR. ROSENTHAL: This is 3?

13 MR. SCHERKENBACH: 3.

14 (Statz Exhibit No. 3, U.S.
15 Patent 5,971,869, marked for
16 identification as of this date.)

17 Q. Do you recognize Exhibit 3,
18 Dr. Statz?

19 A. Yes, I recognize it.

20 Q. This is a patent on which you're
21 named as inventor; right?

22 A. Right.

23 Q. And it was filed in May of 1997.
24 Do you see that?

25 A. Right.

EXHIBIT JJ

**THIS EXHIBIT HAS BEEN
REDACTED IN ITS ENTIRETY**